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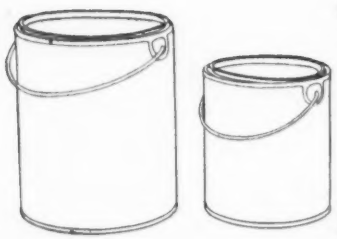

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HONEY PLANTS IN SOIL CONSERVATION

By R. L. VON TREBRA

Regional Chief of Operations Soil Conservation Service, Milwaukee, Wis.

HONEY plants are vital links in the never-ending cycle of life. Soil, plants, bees, and men are utterly dependent, one on the other. The basic source of adequate human and animal nutrition is the soil—not vitamin pills or drugs. In converting soil nutrients into meat, cereal, and milk products, nature must have legumes to supply the minerals needed to keep people healthy and happy.

Legumes are the cornestones of a sustaining and productive agriculture, and are necessary in the healthy and vigorous growth of grasses and the production of forages for animal and human nutrition. Animals and humans require proteins and minerals in abundance to build bone, blood, and body tissue. Without adequate proteins and minerals in the diet, growth is stunted, mal-nutrition results, and physical and nervous disorders continually plague both man and animal.

During the past ten years, plant breeders have developed and selected varieties and strains of legumes which possess wide adaptation as forages in a conservation farming program. Some of these legumes, when grown in combination with selected grasses, produce forage yields two and three times the quantity of either the legumes or grasses alone. As a source of nitrogen, legumes are essential to the vigorous growth of grasses, grains, and row crops. They are fundamental in a conservation program for the management of soil and water to prevent soil erosion, reduce uncontrolled runoff, and step up infiltration of rainfall.

Most of the clovers are practically self-sterile and are dependent on insects for cross-pollination and subsequent seed set. The interdependency of legumes, insects, and agriculture is so closely linked that one cannot normally exist without the other.

The size of the pollination job on an acre of red or alsike clover is amazing. In a good stand of either, approximately 200 to 400 million individual florets must be visited by pollinating insects if each bloom is to produce its maximum seed. If equilibrium is to be maintained in the plant kingdom, pollinating insects (especially bees) are a necessary link in nature's scheme.

A conservation program provides for maximum use of each acre of land. Some lands can be cultivated;

others need to be in permanent meadow; still others are adapted only to the production of timber or as wildlife lands. The productivity of cultivated lands cannot be maintained unless periodically they have incorporated in them plant residues from grasses and legumes essential to the maintenance of good tilth, organic matter, and bacterial action for plant food liberation.

"Legume and grass roots in soil are comparable to hair in plaster." Without grass and legume roots, soils disintegrate and wash away as soil structure and tilth is destroyed; infiltration of rainfall becomes negligible under some conditions and soil becomes sterile; erosion and runoff increase; gullies and sheet erosion are accelerated resulting in ruin and devastation.

The use of legumes and the production of profitable crop yields results in the maximum use of honey plants in a conservation program. A dual purpose is served by the honey plants. Legumes of maximum value as bee pasture must also fit into the economy and forage needs of the farmer.

Legumes grown in mixed stands with grasses as bromegrass, orchard grass, timothy, red top, and bluegrass, furnish excellent pasture and hay for livestock. When these grasses are grown alone, without legumes, the protein content and feed value is less, palatability decreases, and yields are frequently 50 to 100 per cent less.

The production of improved and adapted legume seeds for soil conservation needs is far behind the demand. The potential supply of grass and legume seeds to do the job is wholly inadequate.

The national inventory of conservation needs, prepared by soil conservation districts in cooperation with technical agencies and farmer groups,

shows needs almost beyond comprehension. If the job of conservation is to be done, millions of acres of pasture and cropland must be protected by vigorous stands of legumes and grasses.

In the eight states of the Upper Mississippi Valley, comprising Ohio, Michigan, Indiana, Illinois, Missouri, Iowa, Minnesota and Wisconsin, more than 57 million arces of land not in cultivated crops need heavy seedings of adapted grasses and legumes if erosion is to be controlled, gullies stopped, the land protected and profitably used. Estimates show the following quantities of grass and legumes seeds needed to get conservation established and under way on the 57 million acres of non-cropland.

Intensive programs of seed production will be needed to do this job. Research results of the Department of Entomology of the Ohio Agricultural Experiment Station show conclusively that "seed yields are directly correlated with the density of the honey bee population." With average yields of legume seeds about one to two bushels per acre, the amounts of legume seed needed will not be produced in sufficient quantity unless pollinating services of honey bees are greatly stepped up.

The Ohio Station points out that farmers should "take advantage of established bee yards as a means of stepping up legume seed production." The 1940 U. S. Census lists 2,276,000 hives of bees on farms in the Nation. This is an average of approximately one hive for every three farms, which is totally inadequate for the best seed production.

It is clearly evident that both bee culture and the production of necessary plant materials, particularly legumes for farm conservation programs, must be increased. Bees and heavy legume seed production are dependent on each other. It is conservatively estimated that for every 10 acres of legumes on which a seed crop is to be harvested, from 5 to 10 colonies of bees should be provided for cross-pollination purposes.

Commercial and farm seed producers of improved forages, particularly grasses and legumes that are useful and necessary in a conservation program, must plan and provide for better cross-pollination of legume seed crops than takes place under normal every-day conditions. Proof is available that "sizable increases in yields will result over yields where natural pollinating insects alone are depended on for pollination."

It is reasonable to assume that some beekeepers could find it quite profitable to maintain a large number of beehives and to make the hives available to producers of legume crops on a commercial rented basis. Legume seed producers will need to plan their programs years ahead, in order that beekeepers may maintain strong, healthy bee colonies for pollination purposes.

The use of honey plants, especially legumes of high conservation and forage value, will increase by leaps and bounds in the next few years Many soils of the Corn Belt and eastern United States are so depleted of their original fertility that the maximum utilization of improved varieties and strains of legumes will be necessary to restore soil productivity and maintain a stable and profitable agriculture.

Highways in some sections of the Midwest were unsightly a few years ago because of eroded right-of-ways and gullied conditions, causing enormous expenditures for maintenance and upkeep of the roadbed. Numerous state and county highway departments are now cooperating with the Soil Conservation Service, agriculture colleges, and conservation departments in a program of roadside stabilization, beautification, and conservation of soil and water. Highway right-of-ways can be one of the best sources of profitable bee pasture in any community.

Mixtures of grasses and legumes for pasture renovation and improvement have proved their value as pasture and forage for livestock production. Good pastures produce two to five times as much forage, meat, and milk, as many so-called permanent pastures that, in many instances, are composed mostly of annual grasses and weeds.

The renovation and improvement of permanent pasture areas throughout the Corn Belt is one of the most profitable conservation measures available to farmers. Pasture improvement involves the utilization of limestone, fertilizers, and the seeding of improved grasses and legumes.

Other honey or pollen plants such as willow, black locust, rose and honeysuckle, are utilized in the soil conservation program, particularly on wildlife land. The practices in which they are used involve streambank management, woodland planting, living fences, and shrub borders.

	Acres	Estimated Tons of Seed Needed
For seeding range and pasture	42,777,000	284,579
For seeding eroded fields and gullies	4,914,000	12,110
Prevention of erosion on drainage and spoilbanks by seeding	4,974,000	494
Seeding of odd areas on farms and in waste lands	1,655,000	6,702
Seeding of outlets and water courses	2,767,000	32,781

NATIONAL WAR FUND

Every American, together with every other right-minded, civilized human being, rejoices and gives devout thanks that the war has ended.

Great as is our gratifiation at the successful conclusion of this, the most colossal conflict in world history, it is only the shooting war that is at an end. Unhappily, the fight against war-born conditions of famine, pestilence and disease has only just begun.

In the wake of the shooting war, a large part of the world has been left a heritage of distress and suffering that calls for vigorous and united action if the triumph of democracy in war is to be something more than a hollow mockery in peace.

Millions of innocent civilian victims of war in the nations of our fighting allies throughout the Old World—survivors of a fate that other millions could not withstand during the long years of fighting—have been left homeless and hungry. In the sweep of the enemy avalanche, in the long years of occupation and oppression, these nations have been looted of their possessions, denuded of their industries and stripped of their productivity.

Not even in normal times were any of these nations themselves able to produce sufficient commodities and materials of all kinds necessary for the existence of their populations. Now, after years of deprivation and suffering, they are confronted with the necessity of depending almost wholly upon outside assistance if they are to survive.

The menace which this situation holds for the rest of the civilized world, and the threat which endangers the dearly-bought peace was succinctly expressed by General Eisenhower whose intimate knowledge of conditions is probably unsurpassed. He stated: "Prosperous nations are not war hungry, but a hungry nation will always seek war if it has to in desperation."

President Truman summarized the situation in these words: "Unless we do what we can to help, we may lose next winter what we won at such terrible cost last spring. Desperate men are liable to destroy the structure of their society to find in the wreckage some substitute for hope. If we let Europe go cold and hungry, we may lose some of the foundations of order on which the hope for world peace must rest."

Unable themselves to produce even the bare necessities of existence, and unable to make complete payment for their needs, these war-impoverished nations must seek the assistance of their more fortunate neighbors. It is necessary and expedient that the ordinary instrumentalities financed by

public funds be supplemented by private agencies.

That is why American organizations for foreign relief affiliated with the National War Fund, which during the shooting war rendered whatever assistance was possible, are again appealing to the American public to aid this humanitarian work.

In some 10,000 communities throughout the United States, Amercans will be asked this Fall to join with their fellow citizens in helping relieve the hapless plight of the peoples of nations which for years knew total war, and who now ask only to survive.

In addition to the appeal on behalf of agencies providing relief for the distress of civilians of the allied nations, the campaign also finances the essential and still-continuing services of the USO for the men and women of our own armed forces; the United Seamen's Service program for men of the merchant marine, and the work of the War Prisoners Aid until the last American prisoner of war is repatriated.

A contribution to local community war funds for the National War Fund will be a contribution to the comfort and happiness of our own armed forces, to hapless humanity, to international good will and brotherhood, and to enduring peace.

—v—

SURVEY YOUR TERRITORY BY PLANE

William Coggshall, one of the Directors of the Finger Lakes Honey Producers' Cooperative at New York was tired of having to travel by car for several days in order to cover his county and adjoining counties to get the "low down" on where the best clover and buckwheat areas were.

He found that hiring a commercial plane to make the survey did a more thorough job and required only half a day to a day.

Next year he plans to repeat. The plane flew at an altitude of about 500 feet. Bill says a lower tree top height would give him still better advantage although it might make him a little more seasick than the 1945 trip did.

—v—

QUEEN BREEDER DIES

We have just learned from his family, of the death of J. L. Gaspard during late September at Hessmer, Louisiana. Mr. Gaspard has been a queen breeder for a number of years. He had been in ill health for some time. We understand that his family intends to continue the business.

FIGHTING FOULBROOD WITH RESISTANT STOCK AND SULFATHIAZOLE

By GUY POLLEY

DURING the season of 1942, I discovered American foulbrood getting a foothold among my bees. I had had experience with European foulbrood but had never regarded it as a very serious matter. I had kept bees 30 years but I had never seen the real American in my own bees, though I had treated many cases in my experience as Deputy State Bee Inspector.

In treating my bees, I started with the burning method, that is burning all frames and combs and charring hive bodies, covers and bottom boards, only to find new cases continually cropping out. Finally I decided to use some of the resistant queens during the season of 1944, which proved partly successful. It did not prove so successful in colonies showing heavy infection.

In the spring of 1945, I found at least two-thirds of my four hundred colonies showing from ten to seventy-five per cent American foulbrood. It looked almost like a hopeless case. I had already placed my order for four hundred disease resistant queens and then I read about the success some had had in the use of sulfathiazole. I decided to use the sulfa in connection with resistant queens.

I started introducing resistant queens the 23rd day of April and at the same time, fed each colony a No. 10 pail of sugar syrup made with two parts sugar and one part water containing two sulfathiazole tablets. I heated the water to about 160° and dissolved the sulfathiazole tablets in a pan of water, then after the sugar had thoroughly dissolved in the tank I added the melted sulfathiazole tablets to the syrup thoroughly mixing it.

I inspected the colonies about ten days after queens had been introduced and sulfathiazole treatment had been given and found them well on the road to recovery. I at once fed all colonies a second gallon of the same treated syrup. After the resistant bees started emerging, colonies that had showed as much as seventy-five per cent pure American foulbrood, quickly cleared up one hundred per cent. I fed some of the worst cases a third gallon—more to stimulate brood rearing, than anything else. By the time the honey flow started about June tenth, I could not find a cell of foulbrood in any of my colonies.

Some of these colonies built up to such enormous strength that they stored between three and four hundred pounds of fine clover honey. The average for my entire outfit was one hundred and fifty pounds per colony. On my last inspection, around September 15th I found all colonies one hundred per cent clean and hives fairly running over with the finest bunch of bees I ever saw.

I am thoroughly convinced that the use of resistant bees and the sulfathiazole treatment should be a part of any beekeeper's setup who is bothered with American foulbrood. Not only do I think that the resistant bees are good foulbrood fighters but they are also very good honey producers and I think extra good bees for wintering. The only objection that I have to them, is, they are cross to handle at times. I think by continuous selective breeding this one fault can be bred out of them. Although it will take more time to demonstrate completely the value of the drug with common bees, I do know that when used in connection with resistant bees developed by the Dadant's and the Iowa State College it is a perfect success.

I did not try feeding sulfa drug in pollen supplement as some others have done. I can only speak for it in the method I have used with pure sugar syrup. I think if it was fed before natural pollen became available, it would be better mixed in pollen supplement and fed in a cake form.

Missouri.

—v—

HARVESTING LOANS

The Farm Credit Administration is accepting application for loans for harvesting crops for market and for purchase of feed. Loans are secured by a first mortgage on the crop and are available to farmers who can establish eligibility and who are unable to obtain credit from a Production Credit Association, from a bank or on reasonable terms from other sources. It is presumed that beekeepers are included.

Wrapped colonies, January 26, 1945, showing they have had cleansing flight. Temperature, 38 above.

TO PACK OR NOT TO PACK

By C. G. LANGLEY

WINTERING bees in the North will always be a problem and beekeepers will welcome any proposal that will reduce both the winter mortality and the cost of carrying colonies through. Can we do both?

When this writer began keeping bees in Michigan thirty years ago the practice then in vogue was to cellar winter or pack heavily in expensive, cumbersome cases. For outdoor wintering we believed that the more packing we used the better and eight inches around the hives and eighteen inches on top was considered about right. Now scientific investigation has proved that the cluster does not heat the inside of the hive as much as we thought, thus ruling out the theory that expensive overcoats were needed to keep the heat in. This being true, heavy packing can prove to be refrigeration for the colony as well as insulation, keeping the cluster constantly cold when otherwise some winter sunshine would warm it up and allow the cluster to move over to new stores.

Dare we deduce from this, however, that we should dispense with all winter protection? If we could, it would be wonderful: no more lugging bees into cellars, no more tedious packing on chilly days. So far experience has taught that a certain amount of winter protection pays. How much; that is the question. My own experience is yours for what you may find it to be worth.

Our bees are wrapped with at least one thickness of black asphalt-felt paper. I prefer the asphalt to ordinary tar paper because it is tougher and easier to handle in cold weather. When we have corrugated paper board from the cartons in which we get bee supplies and cans we use a thickness of that all the way around the hive and on top of the inner cover. It has considerable insulating value but not too much. After the paper has been wrapped around the hive and held in place with a short length of lath, we pour dry leaves, straw or off-grade rock wool to a depth of six inches on top of the inner cover and corrugated board. Fold over the black paper neatly, place the outer cover on top weighted down with a brick or stone, and the job is done. Sometimes we fill the hive stand with packing material also. When the hives are so grouped in the apiary that it can be done without too much moving we wrap them as a unit of two or three thus saving time and material, giving each an entrance in the hand hole of the top story. The black paper absorbs enough heat from winter sun to warm up the hive so the bees can take a cleansing flight or at least move over to more stores.

There are three qualifications to this method, that cannot be stressed too strongly; without them it will fail in a costly winter loss:

The first is strong colonies. A small cluster will not survive. Weak colonies are not worth wintering anyway, except as nuclei. Take your winter loss in the fall by killing off the weaklings or uniting them with stronger colonies. Usually those weaklings are the result of failing queens which are a liability under any method of wintering. Winter the strong colonies and save the honey the weak ones would consume before they die, for packages the next spring. A good-sized cluster is its own best winter protection.

The second requirement is plenty of good stores. How much is "plenty"? For me, sixty pounds is a minimum and seventy or more is best. This may seem like a lot of honey at present prices but a little figuring will prove that this amount of stores is not an objectionable expense item when the cost of labor and material for more elaborate packing is considered. The man who winters in a cellar in single story hives leaving only thirty or forty pounds of stores may think

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BEARS

WHOOSH!—It was a dark night but very clearly Bruin was having supper. At least, one of our bee men who lives close heard a mountain of supers crash into its neighbor and that neighbor crash into the third. So next morning all hands beheld the wreckage. Perhaps twenty supers scattered about the ground with bees robbing merrily, brood comb destroyed, hive front ripped out. A Waldorf dinner was never more expensive.

Once started Bruin comes back again and again to such a delightful place to get supper. So the next night two doughty hunters perched high on top of the equipment piled in the middle of the yard to wait for the marauder. Soon he was heard in the woods but a neighbor who had also learned of the visit of a bear came noisily in, in an old jalopy with lights blinking and engine clacking into the night, to talk with the hunters. So—no bear.

The next night two others took their positions on the errie perch to wait again. This time the waiting was rewarded. Bruin came in. He found the little cache of left-over material from the previous night's feast in one corner purposely left by those who cleaned up his mess. He tackled it after snuffing around other colonies and coming perilously close to our big-game hunters. But too bad for Bruin, he found the cache and a soft nose bullet tore its way from one side to the other of his carcass. The next morning he was dragged from the bushes where he had run squealing and howling the night before. He proved to be a five hundred pound bear.

The problem is what to do about it. Apparently an electric fence is one way to help in this difficulty, particularly in those yards that are nearest the kind of surroundings that interest the bear.

A contribution from the University of California, published in the Journal of Wild Life Management for October 1938, by Tracy I. Storer, George H. Vansell and Ben D. Moses, with the title "Protection of Mountain Apiaries from Bears by the Use of Electric Fence", gives many valuable suggestions. They say truly that:

"Nature often has woven a strange fabric of interrelations between various species of animals and plants in the wild, and nowadays some equally complex situations are arising in the field of economic zoology where the activities of different species of animals touch diverse human interests. Thus, the evolution of agricultural crop production in the lowlands of California has now affected the wild black bears in the Sierra Nevada, and the aid of an electrical engineer was necessary in the chain of adjustment that had to be made!

"Equipment for protection by electric fence of a field bee yard includes: (a) Battery as source of energy; (b) Fence controller unit containing: (1) interrupter and coil for producing intermittent shock and (2) current limiting device; (c) Fence posts; (d) Fence wire on insulators fastened to the posts and connected to one side of the controller output; and (e) Chicken wire "Threshold" around outside of fence connected to the other, grounded terminal.

"Either dry or storage batteries may be used. Weatherproof units containing four 1.5-volt dry cells (telephone type) should serve continuously for 3 months under field conditions; these cost about $2.00 per set. Storage batteries, such as used for automobiles have ratings of 90 ampere hours or higher; one should operate a fence unit for 90 days, under proper care, without recharging. (These statements are based on tests made under field conditions in 1937.) Storage batteries are higher in initial cost, heavier to transport, require charging at intervals, and need replenishment of water to maintain the proper level of the electrolyte. In general, dry-cell units seem more practical.

"The controller contains an interrupter that serves to break the D. C. current from the battery, causing a change in the voltage and current relations in the primary windings of the coil and inducing a transient voltage in the secondary; this higher voltage is used to charge the fence wires. The interrupter also performs two important additional services; namely, it permits a person or animal that has come in contact with the fence to break away between shocks and by intermittent use it conserves the battery energy. Field installations have involved use of shock intervals of from 73 to 12 impulses per minute, but the latter is too slow; the most useful range lies within these limits; 30 to 50 impulses per minute are adequate."

"The coil serves to "step-up" the 6 volts of primary (battery) source for application to the fence. Since the current and consequently the hazard to human beings increases as the voltage is raised, means must be used for keeping the output within safe limits, certainly in respect to the current and possibly also as to voltage. Human deaths have occurred with shocks of as low as 50 volts, but general experience suggests that somewhat higher voltage can be used if the current is held to not over 15/1000 of an ampere (15 milliamperes). The exact limits for safe use are unknown."

Robert Knutson, Ladysmith, Wisconsin, puts the finish to a prowler.

It seemed desirable to conduct preliminary experiments on the effect of an electrified fence on bears before establishing such fences about mountain apiaries. Fortunately there exists in central California an area with a disproportionately large black bear population—in the Yosemite Valley. Two test fences, each enclosing an area about 24 feet square, were constructed in the lower western part of the Valley where bears are common. One fence consisted of 5 strands of barbed wire, the lowest, middle, and topmost of which were mounted on solid porcelain insulators and connected "in parallel" to one output terminal of a fence controller. The other two wires were stapled directly to the supports and grounded to a rod about 10 inches long driven into the then wet soil. The wires were placed at 6, 14, 24, 35 and 48 inches, respectively above the ground. The second fence was of smooth (unbarbed) wire, similar in construction to the first, save that an additional wire on insulators was placed 54 inches above the ground. Trees were used as the main means of support for the wires. Both fences proved to be adequate height because the bears neither tried to jump or climb over."

"Two types of controllers were used, one with a much stronger (⅜") spark than the other. Both types of equipment were effective save that in one case where using a 4 second interval between shocks, one bear passed through the smooth wire fence. The stronger coil caused a more

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THAT NEW CLOVER

OF the nearly 100 legumes planted in the American Bee Journal honey plant garden, one stands out above all the other as entirely new and different from any now in cultivation. It is Trifolium ambiguum, a deep rooted perennial clover from the Caucasus in eastern Europe. It spreads rapidly by rhizomic roots and appears to be entirely winter hardy. Since it is new to this country there is no common name but the Iowa Beekeepers Association has asked that it be named "Pellett Clover" in recognition of the effort made in the test garden.

When in bloom this new clover has much the appearance of alsike since the flowers are about the same color although of somewhat larger size. The plant is very peculiar in its habit of growth. During the early spring months only basil leaves are in evidence. These look very much like red clover leaves but are often much larger. The three leaflets are often held erect by leaf stalks more than a foot high. Even at this stage the amount of forage is quite heavy. In late May the flowering stem appear and they resemble the flowering habit of red clover more than any other although quite different in some respects. In our plots they are about waist high at height of bloom and each stem has many flower heads at different heights.

Instead of a deep corolla tube like red clover this new variety is very shallow and its nectar is readily available to short tongued insects. That it yields nectar freely is indicated by the large number of insect visitors including honeybees. It seeds freely and indications on our grounds are that it will be easy to make increase with rapidity both by seeds and by means of root cuttings.

Our little field of this clover has grown from a very modest start.

About a dozen seeds came in a letter from one of our numerous helpful correspondents and were planted on April 22, 1941. Four or five plants grew from this planting but attracted no particular attention during the first summer. Since there were dozens of similar small plots of legumes it took some time to discover the particular merit of the new clover. When it came into bloom in midsummer it was noted that the few flowers were eagerly visited by honeybees although many other plants were blooming in much greater abundance.

It was not until the season of 1943 that the special attractions of this plant were recognized. Officials of the U. S. Soil Conservation Service, visiting the garden noticed that it behaved differently from other clovers. When plants were dug up it was found that it spread from rhizomatic roots.

That was the signal for special effort to propagate it as rapidly as possible. In the spring of 1944 several rows about 20 rods long were planted from root cuttings. The rows were about four feet apart and the plants eighteen inches to two feet apart in the row.

Those little plants looked very lo- esome set so far apart in April but by September there had been a surprising increase as will be seen by the picture taken on the ninth of the month. A count of several clumps indicated that there were then about

Top shows flower and leaf characters of Trifolium ambiguum, a perennial rhizomatous clover. Center, close-up of leaves and flowers. Bottom, offset of a portion of the root on one plant, showing how it spreads by frequent branching.

19 plants for each one planted five months earlier.

Apparently underground growth continued throughout the winter since large numbers of new plants appeared soon after frost was out in spring of 1945. By June the entire plot was filled with plants with the greater number in full bloom. The appearance of the plot only fourteen months after planting is shown in another picture.

It soon became apparent that this clover depends upon the bees for pollination. During the early bloom the weather was very cool and wet and bees were confined to the hive much of the time. During this wet period the flowers faded without setting much seed. At about the time the plants reached full bloom the weather turned more favorable and the bees swarmed over the blossoms. Seed set freely and many heads seemed to have a seed for nearly every floret.

Toward the end of the flowering period the bees deserted the clover to a large extent in favor of other flowers and there was but little seed in the later flowers. Considering the area, the set of seed made a very favorable showing. However, much of it was lost from shattering before a machine could be brought in to harvest it. This experience demonstrated that the new clover requires somewhat different handling to secure the maximum yield of seed than other clovers. The seed shatters out so very readily that care must be used to cut at the height of seed setting without waiting for the later flowers to ripen. It must also be handled more carefully than other clovers in harvesting.

The root system is such as to offer great promise for use in soil conservation efforts. An old plant dug up at time of the honey plant conference was cut off at three feet below the surface but some visitors estimated from the size at that point that it might go down ten feet. The entangled mass of roots was sufficient nearly to fill a bushel basket and visitors expressed great surprise at the extent of them.

The picture of the root system shows part of one offset of a plant but not the main roots and probably no more than ten per cent of the total growth of the one plant. It would be hard to find a plant more promising for waterways, roadsides or other places where erosion is a serious problem.

Our soil is rich, loose and black. No better soil can be found. The fact that the new clover thrives so well here is no proof that it will do equally well elsewhere. Agronomists present

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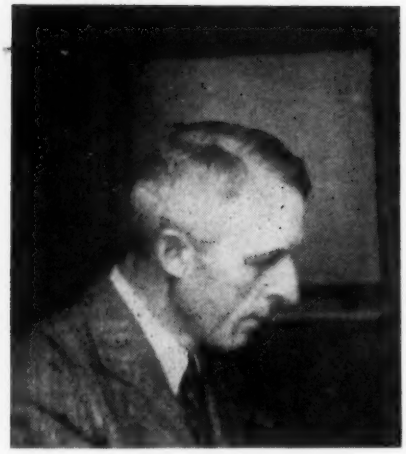
Plants, transplanted in 4-foot rows from original bed in spring of 1944 by September show considerable increase. Finally, by spreading from the roots it occupies all the space in its bed.



SOME FACTS ABOUT NECTAR AND POLLEN SOURCES IN THE WEST

By GEO. H. VANSELL

United States Department of Agriculture, Agricultural Research Administration, Bureau of Entomology and Plant Quarantine.

THE fact that a plant blooms abundantly does not necessarily make it a good source of honey. The amount of nectar secreted and its sugar content largely determine a plant's value in honey production. Since honeybees seek the richer sources of nectar first, the competition between plants has an important bearing on their activity, and therefore on the fruiting of those plants that require insect visitation for pollination. The availability of pollen is also important, inasmuch as it is necessary for brood rearing.

In the western states only about 10 plants can be considered as major sources of honey. These plants are alfalfa, catclaw, clovers, cotton, fireweed, hairy vetch, mesquite, orange, sages, yellow star-thistle, and wild buckwheat.

Alfalfa is unquestionably the most important honey source in these states. Sugar concentration of many samples of alfalfa nectar collected in the western states has averaged around 40 per cent. On very wet soils it frequently has not exceeded 25 to 30 per cent, while on dry soils, as in seed fields, it has approached 60 per cent. An alfalfa blossom does not secrete nectar until it has been open for several hours.

An orange blossom secretes nectar before the petals open, and a mature bud may contain a sizable drop of fluid. Samples of orange nectar taken from newly opened blossoms have averaged 15 to 16 per cent of sugar, and nectar of such low concentration is not very attractive to the honeybee. In the presence of mustard, orange nectar may be ignored by the bees, preference being shown for the mustard, which has a sugar concentration of about 40 per cent. Under dry-air conditions, especially when a wind is blowing, samples of orange nectar containing 35 per cent of sugar have been taken, and under such conditions the honeybee works the orange blossoms heavily and stores several pounds of nectar daily. In the case of an orange honeyflow the loss in weight of a colony of bees during the night is unusually large because of the evaporation of water from the profuse quantity of such thin nectar. The navel orange blossom has no pollen.

The blossom of cotton produces nectar of about 25 per cent sugar concentration. The Pima variety secretes more abundantly than does the Acala. Pima also has many more blossoms per plant. The SXP variety evidently secretes very little nectar and produces an extremely small number of blossoms. A cotton blossom secretes nectar during part of one day only. In competition with alfalfa, cotton blossoms may be worked very little by the honeybee. On the other hand, cotton is attractive when it occurs more or less alone, or with some plant that has a nectar of a lower sugar concentration. Where bluecurls and cotton occur together, both may be worked simultaneously.

Sages secrete nectar of sufficient sugar concentration to be very attractive, but these plants are very erratic in the production of nectar from year to year. They apparently require an alternation of wet and dry periods.

Whenever conditions in the valleys west of the Sierra Nevadas become too unfavorable for bees, either through the use of crops which are not honey plants or for other reasons, they are sometimes moved to the mountains, where they find such honey plants as the manzanitas, the buckbrushes (**Ceanothus spp.**), and mints. In addition to nectar, the mountains provide quantities of honeydew from the white fir, oak, and incense cedar trees. The cedar belt is several miles wide and at least 400 miles long. The incense cedar scale (**Xylococculus macrocarpae** (Coleman) produces a liberal quantity of honeydew during favorable seasons. Over 100 pounds of this material have been known to be stored by a single colony of bees. The supply is not entirely dependable, however. Furthermore, a dearth of pollen is almost certain in the Sierra Nevadas after midsummer. The incense cedar honeydew, being of insect origin contains no pollen, and the cedar trees blossom late in the winter, when bees are not active. The planting of hairy

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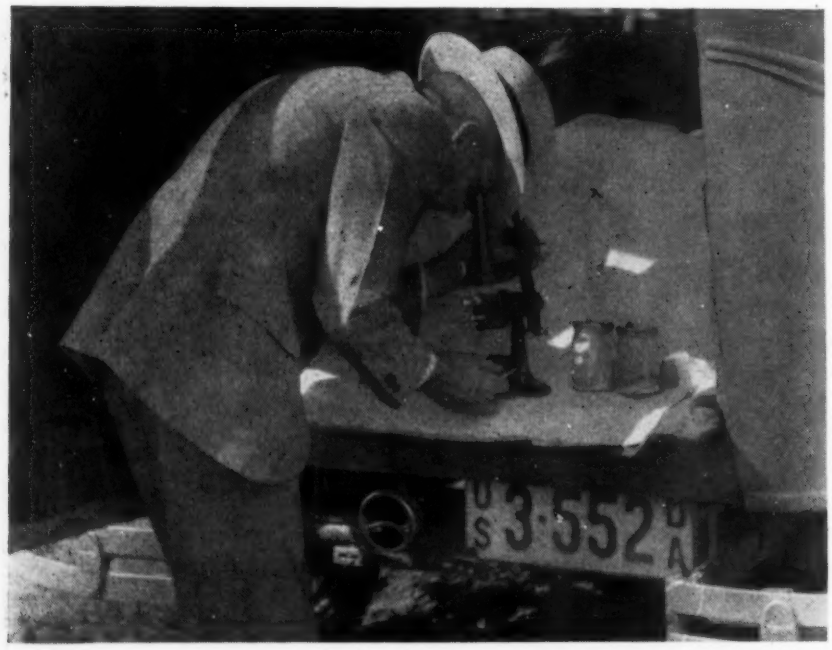

Refractometer, in use, to determine nectar sugar.

Who's It?

WHETHER or not this is hard or easy of course is undetermined, but it is not a way-back-when photograph of the unknown. It is fairly recent. The only thing that will hide the identity is probably a lack of complete resemblance to the individual. It is one of those pictures, which, when taken, cause the folks at home to exclaim, "Oh my, it doesn't look like him at all!"

Nevertheless the personage embodied in this particular guess is one of the famous men of beekeeping. In submitting the pictures the choice was left to us. Said he, "Pick out the one that suits you. I have to confess that 'Who's It' is interesting." Now there! Lots have said it but when the gentlemen of erudition and dignity peer down from their responsible positions to tell us that they too are captivated; well, well, there must be something in it.

This particular individual has been prominent in stock improvement. He is a chemist and yet he has been the one who has done perhaps the most to develop the tools and materials which are now used by all research institutions in their studies of improvement of the honeybee. That's saying enough. Who is he? Please send your answer by the fifteenth of the month.

Last Month, Glory Hallelujah

Since so many called the punch on Cale, Managing Editor of the American Bee Journal, under the name of "Glory Hallelujah", let's start off that way. That handle was wished on him by his friend and Co-worker, Frank C. Pellett, because of the initials, G. H. Many simply say G. H. Others say, Glory, or Glory Hallelujah. The first experience with the wide-spread adoption of this blazing nickname was from a tall, stocky Westerner with a broad brimmed hat and two firm hands, who had never been seen before by G. H. He stepped up to Cale and placing both of those big palms upon his shoulders said, "So, this is Glory Hallelujah."

There were not too many guesses. In fact there were only a few. It is presumed that the identity was hidden too well behind the Lord Fauntleroy suit and the beribboned tennis racket. Most of those who guessed simply stated, "the unknown is G. H. Cale" so there is a paucity of those interesting comments that usually accompany the answers.

Probably the most interesting of the few comments received was from William Preston Kinard, of Louisville, Mississippi, "I thought this would be a hard one when I began reading and glanced at the young man, but by the time the clues were noted I was sure the unknown could only be Glory Cale. I believe you said too much this time, so G. H. ha, ha!" V. O. Lee, Charleston, Arkansas, says, "The unknown is set for the kill. Some call him Glory Hallelujah, especially when they are around close. What do you say, Mr. Martin! (V. O. Lee, is a runner-up to Eldon Martin of Missouri in this contest.) Well Eldon Martin got trimmed this time. He says, "What hints! I can't make heads or tails out of it. The only possible angle I can arrive at is that somehow it reminds me of someone writing an autobiography or writing about a person with whom he is very familiar, as though he were standing back of him, looking over his shoulder; both smiling. If so, there are only two left at Hamilton, to fit into the picture. Roy Grout and G. H. Cale. Rather than straddle the fence, I picked Grout."

J. A. Vargo of Granite City, Illinois is sure it is James Dadant. Howard E. Black of Adams, Indiana, is just as certain that it is M. J. Deyell.

—v—

NEW OHIO BULLETIN

A new bulletin on Bees, dealing with maintenance of colony population for honey production and pollination has recently appeared. It is Bulletin 254 of the Extension Service of Ohio State University written by Dr. W. E. Dunham.

This bulletin deals with the fundamental problem of securing a maximum number of bees at the time when they are most valuable and can be studied with profit by any beekeeper no matter how long he has kept bees. Those interested should write to the Extension Service, Ohio University, at Columbus for the publication.

Glory tells about it

Or talks about it

Or finds out about it

COMING TO FLORIDA? PLEASE--BE CAREFUL!

By ARTHUR C. BROWN
Plant Commissioner, State Plant Board of Florida.

CITIZENS of Florida are a wholesome and hospitable people. They appreciate the fact that residents of other states are denied the great pleasure and benefits of living in Florida, where climatic conditions are such as to enable man, animals, birds, fish, and even bees, to be outdoors and active throughout most of the year. For these reasons Floridians welcome the visitors from outside, and go out of their way to make the non-resident's visit to the state both pleasant and profitable.

But these same Floridians are human and, being human, they resent anything that smacks of abuse of hospitality so freely extended. And for some time one group of our citizens, the commercial beekeepers, have been very resentful indeed. The reason for this attitude may be found in the annual movement into Florida of apiaries which are found to be infected with American foulbrood. And, we regret to state, a number of these diseased apiaries are accompanied by certificates of inspection signed by responsible officials indicating freedom from disease. American foulbrood may be regarded lightly by northern beekeepers with their comparatively short brood season. However, in Florida, the disease becomes a festering sore that saps the vitality of the affected colony and, not only causes the death of the brood, but spreads with great rapidity to other colonies and apiaries.

No fair-minded individual should find fault with this attitude on the part of our beekeepers. It is bad enough, when the time arrives for them to move their bees to a choice location in their own neighborhood in order to enjoy the benefits of an expected honeyflow, to find this site preempted by bees from another state. But when it is learned that these alien bees are affected with American foulbrood and thus present a menace to all bees in the neighborhood, our beekeepers become very wrathy indeed. They feel that their hospitality has been abused and their bee pasture polluted. Their ire is directed alike towards the owner of the alien bees and the state official whose name appears on the certificate indicating freedom from disease.

In the past, Florida inspection officials have been lenient in their attitude towards the owners of diseased bees from other states. None of us are infallible, and at times even the best of apiary inspectors may fail to detect American foulbrood when the infection is a light one. With this in mind, inspection officials accorded apiaries from other states the same treatment as that received by Florida bees: the diseased colonies were burned, and the apiary placed under quarantine. Repeated inspections were made until such times as, in the opinion of the State Plant Board, it was safe to repeal the quarantine and permit the clean bees to return to their home states. It is admitted that this policy was heartily endorsed by the migratory beekeepers. In fact, some of them have stated that one of the chief benefits to be enjoyed as a result of a trip to Florida was the eradication of American foulbrood from their apiaries at but little expense to themselves.

A recent review of the activities of the State Plant Board of Apiary Inspection Department disclosed the fact that no small portion of the time of our inspectors, as well as funds appropriated for bee disease eradication in Florida, was devoted to running around the state looking for bees belonging to non-resident owners and eradicating American foulbrood, frequently found upon inspection. We were engaged in a combination good neighbor-lend lease activity with the usual results—the main benefits were enjoyed by non-residents.

This condition should not be permitted to continue. We cannot justify the expenditure of state funds and a large portion of the time of our inspectors in the eradication of American foulbrood from the apiaries of non-residents. Florida, like other states, has adopted rules and regulations governing the movement of bees into and within the state. These regulations have the approval of Florida beekeepers and are complied with by them. They may not meet with the approval of beekeepers residing in other states; but it is only reasonable to expect these non-residents to comply with our regulations if they intend to move their bees into Florida to take advantage of our fall and winter honeyflows and to make increase at a time when climatic conditions in their own states make manipulation of bees impossible.

Migratory beekeepers should be advised that from now on apiaries found infected with American foulbrood after arrival in Florida must be removed from the state within twenty-four hours. Inspection will cease upon the finding of the first affected brood and notice to remove the entire apiary will be handed to the owner. This is not an idle threat. Within the past three months the non-resident owners of seven affected apiaries have received such notices—and complied with them without delay. In the event the owner's truck is not available, or the owner feels that he cannot take the time to move the bees, the express company is always ready to furnish transportation—at a rate approved by the Interstate Commerce Commission. Furthermore, apiaries moved into Florida without advance notice to our Apiary Inspector with respect to certification, number of colonies, and the site in Florida to which they will be sent for inspection, will be accorded the same treatment.

We believe that the movement of diseased bees into Florida can be reduced to a minimum if out-of-state apiary inspectors and beekeepers realize that Florida beekeepers are fearful of the introduction of diseased colonies and look to the State Plant Board to see that such introductions are stopped. This office is determined to do everything within its power to comply with the demands of our beekeepers. Our requirements as to entry of out-of-state bees are not unreasonable. All we ask is that non-resident beekeepers furnish us with a certificate to the effect that the apiary has been inspected within 60 days prior to date of shipment into Florida and was found to be apparently free from diseases, together with information as to the number of colonies to be moved and the location where they will be placed. If the inspection has been made by a qualified and conscientious inspector, the owner of the bees should suffer no inconvenience in connection with his visit to Florida.

We can appreciate some of the difficulties likely to be encountered by apiary inspectors when called upon to certify an apiary for movement into Florida during the fall or winter when brood is not present. However, there should be available for his information and guidance the records as to conditions existing in the apiary at the time inspections were made during the summer when brood was present. If it was known that American foulbrood was present at that time, and if no further inspections were made to determine whether or not the disease had been eradicated, it would be reasonable to suppose that infection was still present in the form of bacteria or "scale." In such an event, only the presence of brood

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WAY OUT ON A LIMB

Ever since the issuance of Amendment 4 to MPR-275, March 29, 1943, now a part of RMPR-275 issued March 19, 1945, strange and serious things have been happening in the honey industry. The schedule of ceiling prices for "packaged honey" that appeared therein showed the beekeeper the maximum price he could obtain under law if he packed his own crop in glass jars and five or ten pound pails instead of 12 cents per pound if he sold his honey in bulk and furnished the container. This schedule of ceiling prices as set-up by OPA supposedly was in accordance with business practices and in accordance with the then going price of packaged honey.

It seems strange indeed then that this should have had the effect on the honey industry that more or less immediately took place. It seems odd that the beekeeper should not have realized the spread between the price he could obtain for bulk honey and the price he could obtain for packaged honey. It is even stranger that the industrial consumer and the packers apparently did not realize the effect the Amendment would have on the industry. But from that time until now nearly every beekeeper has turned to packing his own honey and the industrial consumer and the independent packer were left out on a limb with respect to domestic honey.

Until recently, the industrial consumer and the packer were able to augment the supply of honey which they were able to buy through advertising, personal solicitation, and even actual begging in the United States, by purchasing honey from abroad. One can recall that a great cry went up from beekeepers when some of the foreign honey which was put on the retail market was found to be off-grade. Certain ones said that the beekeeper was to blame, not the packer, because he refused to sell his honey in bulk. But the packer was quick to see his mistake and off-grade honeys soon disappeared from grocers' shelves.

At present the industrial consumer and the packer are cut off from a supply of foreign honey by OPA ceilings on imported honey c. i. f. New York. The honey which they might have purchased is being bought at higher figures, figures higher than OPA will permit them to pay, by buyers in England and Europe. Thus the industrial consumer and the packer find themselves out on a limb with respect to foreign honeys as well as domestic honeys.

We will all admit that the industrial consumers and the packers are a very important factor in the honey industry; that it would be a tragedy if they were forced to go out of business because they were unable to obtain necessary supplies of honey. Obviously, something must be done and done soon—providing it already is not too late.

It is contended by some that the beekeeper was forced into packing his own honey by the additional profit he could obtain under scheduled ceiling prices. It is contended that the beekeeper feels that he was forced into packing his own crop; that this was something he really did not desire to do. It is also contended that if the beekeeper could obtain more for bulk honey, many beekeepers would discontinue packing and sell their honey in bulk to the industrial consumer or the packer.

There are some who have suggested that the solution to the problem is to raise the ceiling price on bulk honey f.o.b. the beekeeper's local shipping point. Apparently such a move is out of the question under present OPA policy. Others have suggested that the ceiling on bulk honey be removed. In both cases, however, it is suggested that ceiling prices on packaged honey remain where they now are. It is contended in either case that more honey would move to the industrial consumer and the packer as many beekeepers discontinue packing their own crop.

The beekeeper-packer who services his trade outlets constantly with an attractive, high-quality product, skillfully advertised and merchandised at current price levels is an asset to the honey industry. It is only when departures are made, usually in times when honey does not move as readily as it does today, that he becomes a liability to the industry. Past history indicates strongly that too many beekeepers today are packing honey; that the industry would be in a more favorable position for the future if more honey was moving to the industrial consumer and the packer.

There is need for immediate action to correct the present situation. This is not the time to haggle over the mistakes of the past. With supplies of sugar predicted to become free by 1947 it is time for the honey industry to rise and look ahead, keeping in mind that whatever may be done will not be to the liking of everyone, but should, by all means, be for the good of the future honey industry.

—V—

SULFA

The article in this issue by Guy Polley on the use of resistant stock and sulfa in the control of American foulbrood will be found by many to be startling. We can back it up, however. It is our own experience as though we had told it ourselves, but it is much better to have Mr. Polley tell it.

We realize that the publication of such material is going to impose a problem in the established procedure of handling bee disease. Under the existing regulations, if bee disease is found by those in charge of official control, it is required by law that this disease be burned. Remember, however, that there is nothing in existing laws which says that the beekeeper shall not, by any means possible, remove disease from his apiaries by burning, treatment, shaking or otherwise eliminating it as a nuisance, by complete eradication, even before an inspector arrives. In other words the inspector's authority is confined to the determined existence of bee disease which must be thereafter destroyed. It is the only way it can be done.

Nevertheless, although the sulfa treatment is young and we know little about it, it does work as Polley says. Many report success whether or not they use resistant stock. It is our contention that resistant stock of good quality, (and we emphasize the last of the description with the utmost emphasis) is a control in itself against the occurrence of disease in the bee yard. Also we know from experience that the use of sulfa with such cases as do occur, and subsequent requeening with resistant stock, usually controls the situation completely. We do not know how long the disease is kept under control even in the individual colonies so managed. Nobody does. However, we do know that colonies in Mr. Childer's yard treated in this fashion with sulfa alone with common stock two years ago, are still clean.

An interesting comment on the use of sulfa is in the Beekeepers Magazine for September, where two letters to the editor proclaim the disappearance of the diseases with the use of sulfa, to be followed in October by a statement from Howdy:

"Personal friends from Michigan to Massachusetts have enthusiastically reported that the sulfathiazole cure works. But I don't like it for the same two reasons that apply to resistant bees. It is a hard way to do it, compared to simply cleaning up, and it may only drive the infection out of sight without removing it completely."

This seems like an illogical argument. We have never known disease to be cleaned up permanently and irrevocably by either burning or treating, or by any of the older methods. It is true it is simple to clean up individual cases of disease, but the loss is alarming. To assume that the newer treatment drives infection out of sight without removing it, is just an assumption. We do not know. Also the use of resistant stock is not a hard way, but an easy way to control disease.

Womans Page

From American Honey Institute

THE good old summer time is over for another year, and people are dusting off the family car and stepping out to enjoy the autumn air and renew old acquaintances with a surprise visit here and there. Have unexpected guests caught you unprepared? How about the rest of that Honey Spice Cake you made for the children's lunch box? What could be more appreciated after an evening chat, than a generous portion of the cake dressed up for company with Honey Chocolate Sauce. Honey 'n spice and everything nice, that's what this cake is made of. Here's how the trick is accomplished.

Honey Spice Cake

2 cups sifted cake flour
2 teaspoons double acting baking powder
¾ teaspoon salt
1 ½ teaspoons allspice
½ cup shortening
1 teaspoon grated lemon rind
¾ cup honey
2 egg yolks, unbeaten
½ cup milk
2/3 cup chopped raisins
1 teaspoon vanilla
2 egg whites
1/3 cup chopped walnuts

Sift flour once, measure, add baking powder, salt, and allspice, and sift together three times. Cream shortening with lemon rind; add honey gradually, beating well after each addition. Add ¼ of flour and beat until smooth and well blended. Add yolks, one at a time beating well after each. Add remaining flour in thirds, alternately with milk in halves, beating well after each addition. Add raisins with last addition of flour. Add vanilla. Beat egg whites until they will hold up in moist peaks. Stir quickly but thoroughly into batter. Turn into greased 8x8x2 inch pan and sprinkle with nut meats. Bake in moderate oven (350°F.) for 55 minutes, or until done, or in two greased 8 inch layer pans in a moderate oven (375°F.) 25 minutes, or until done.

—V—

Chocolate Sauce

½ cup strained honey
¼ cup water
1 square chocolate
½ teaspoon vanilla
1 T. butter

Boil water and honey until it spins a light thread, or to 230°F. Remove from fire, add the chocolate which has been cut coarsely. Set aside, and when the chocolate has melted beat thoroughly with Dover beater, and when cool add ¼ teaspoon vanilla, and a sprinkling of salt. This is an excellent sauce for puddings and frozen desserts.

—V—

Are you greeted with a volley of hot fat spattering from the pan every time you fry foods? It can be properly squelched by simply sprinkling salt over the melted fat before you start to fry the meat, vegetable or what-have-you.

—V—

If you are one of those rare individuals who own a dripless cream pitcher, you may skip to the next paragraph. But, for those of us who cannot claim this distinction here is a little secret that will turn the tide. Rub a bit of fat, any edible kind will do, under the lip of the offending piece of crockery and glory in unspotted table linen.

—V—

Weep no more my ladies—that brown sugar hasn't really turned to granite. If you will put it in the bread box, or in a closed container with a slice or two of fresh bread, those lumps will soften in no time.

—V—

Autumn and apple cider go together like pork and beans. For a new and tangy twist to this old-time refreshment, try Honey Cider. It's a perfect accompaniment for that evening snack.

—V—

Honey Cider

Bring to the boil a quart of sweet cider, with about ¼ cup of extracted honey, depending on how thick and sweet it is, and add a few grains of salt, 6 to 8 short pieces of stick cinnamon, and as many whole allspice, and a dozen whole cloves. After heating let the cider and spices stand for several hours to develop flavor. Before you serve the cider, reheat, and strain out the spices.

—V—

If "Oh how I hate to get up in the morning" is your daily theme song, here's a tip on a way to save a few minutes for those forty extra winks. Laboratory research has shown that it is quite permissible, contrary to former ideas on the subject, to squeeze the breakfast orange juice the night before, store in the refrigerator, and still retain 95% or more of the precious vitamin C it contains.

—V—

Keep your places—
Here is an idea for gay, informal napkin clips to help cut down on the family laundry. Paint wooden snap-type clothes pins in colors to harmonize with your kitchen or dining room decoration, and letter the names of the family members on them.

—V—

SOME FACTS ABOUT NECTAR AND POLLEN IN THE WEST

(Continued from page 396)

vetch, which is becoming common along the roadsides above Placerville, California, would improve the pollen and nectar supplies in the mountains. The colonies should be moved to lower elevations in the fall.

Even the varieties of one species of plant differ in the sugar content of the nectar, as well as in the quantity of nectar produced. In one series of tests with eight varieties of plums the sugar concentration ranged from about 10 to 28 per cent. The bees showed a decided preference for those varieties with the most concentrated nectar.

There is a very great difference in the quantity of pollen obtainable in different places. For example, a single trap in the Sacramento Valley has yielded from 50 to 100 pounds, one at Fallon, Nevada, 22 pounds, and one in the San Joaquin Valley 9 to 10 pounds. To build a colony to a populous condition much pollen is needed. The Sacramento Valley, with its tremendous acreage of deciduous fruits and other sources of pollen, is the center of a package-bee production area.

LET US GIVE THANKS

As a nation we in America have much for which to give thanks at this time. Great as has been the cost of the most devastating war in history we have escaped the destruction of our homes and cities, our utilities and our factories. The devastation that has come to England, France, Holland, Belgium, Germany, Russia, China and Japan has not come to us.

Our people are well fed, comfortably clothed and have good shelter against the approaching winter cold. Starvation and hunger such as is common to the war-torn countries is unknown here. While we complain of such trifling inconveniences as irritate us, others suffer for lack of food, fuel, and shelter.

Opportunity for a full and rich life is open before us. We are rich beyond the dreams of old world peoples. A rich heritage is ours in the abundance of our raw materials; our fertile soil, our mines, our forests, our vast system of communication, and the means of converting these things into articles of everyday use.

Let us remember the sacrifice of those who have gone out to defend our heritage and those who have sent their sons and daughters on this hazardous mission. Let us seek a more equitable distribution of our wealth to the end that no individual shall feel the lack of either opportunity or necessity. While we bend every effort to improve our lot let us not be unmindful of our fortunate position. Let us observe the thanksgiving season with due recognition of the fact that we live in a favored country. We owe much that we are in duty bound to endeavor to repay by extending a helping hand to those less fortunate. Let us give thanks.

DANGERS AHEAD

One of America's leading economists predicts that "We will probably suffer a serious agricultural depression within two years." If he is right the beekeeper will probably be facing the same kind of problems as other food producers. We must expect lower prices for honey and slower demand.

In anticipation of such changes we should do everything possible to strengthen the agencies dealing with public relations. The Federation and the Honey Institute should be provided with ample facilities with which to work. When other sweets are abundant again the public will need to be constantly reminded of the merits of honey.

We will also come to appreciate the services of packers, who have means of distribution to put honey on the shelves of every food store. If we are able to cooperate to the extent that all groups work together harmoniously we can maintain a prosperous industry. If we spend our efforts in fighting each other we will feel the pinch much more severely.

— v —

HOW MANY BEES

The number of bees necessary to secure pollination of fruits or legumes is a subject of constant discussion. It is commonly stated that there should be at least one hive of bees for each acre of crop. However, that figure is often totally inadequate. A man with ten acres of clover may bring ten hives of bees and think his problem is solved. The bees, however, refuse to confine themselves to his clover and instead they visit any flowers which are attractive to them within flying range.

It seems probable that there were from ten to twenty acres of white Dutch clover in Iowa for every hive of bees within the state. As a result many fields were poorly pollinated.

Much remains to be learned concerning the relation of bees to the pollination of particular plants. Other flowers with a greater sugar concentration in the nectar often lure the bees away from the desired objective. Weather conditions influence the time and distance of flight, and other factors influence the final result.

There is ample evidence to indicate that more bees are necessary to provide reasonable insurance that has generally been recognized.

— v —

PREJUDICE

No other crop common to American agriculture has had to meet so many objections or to overcome so much prejudice as has sweet clover. It is now generally accepted although many specialists in farm crops still advise other legumes in its place.

In 1896, Dr. H. Besse, an Ohio enthusiast, planted three acres of sweet clover on his best land. In July the officials charged with enforcement of the weed law, cut it all down. He thus lost the price of the seed, the use of the land and the labor of preparation and planting. In addition he was compelled to pay $27.20 in costs for the public action in cutting the so-called weeds.

That incident was typical of the public attitude for many years and much patience and fortitude was necessary to bring about the change in public opinion. The beemen were responsible for the final acceptance of sweet clover since they continue to plant it and to give unceasing testimonial as to its value.

It was not until sweet clover did find a place in the farm rotation that honey production became a substantial industry. With the planting of sweet clover came the expansion of beekeeping and each has profited because of its association with the other.

How to Do It

CORN COB SMOKER FUEL

Chop up dry corn cobs or crush them up somehow. Put on the fire in your smoker. The smoke is just as cool to start with as it is to end with. It smokes a great deal longer than anything I have ever used.

Douglas W. Decker,
Washington.

— V —

CHUNK HONEY ON THE FARM

I produce some chunk honey in shallow frames, about four pounds of honey to the frame. Many folks object to so large a chunk so I use a vertical bar in the center. These frames sell more readily as the customer can cut out half of the honey without leakage.

Harry T. Starnes, Indiana.

— V —

RESERVOIR FOR FUEL

When you are through with the smoker do not dump its contents and leave, thinking the last sparks of fire are out. Do no risk a lighted smoker in the car or truck or it may be serious. Dump the contents of your smoker in a metal-covered container kept in the bee yard for the purpose.

W. P. Kinard, Mississippi.

— V —

KEEP A TOAD

Did you ever keep a toad in your basement? Without any care except a shallow pan of water, the toad will in return, eat all flies and bugs that get within reach. Place a bait for the flies on the floor. The action of the tongue of the toad when devouring flies is so fast that it cannot be detected except by the click of the jaw. In the fall the toad will hibernate until spring in a dark, cool place in the basement.

H. G. Kull, Missouri.

— V —

HIVE STAND AND ALIGHTING BOARD

One of the most paying additions to equipment is a hive stand and alighting board combined. The hive bottom is protected by it from decay and rot and the bees are helped in reaching their hive entrance when coming from the field with heavy loads.

You only need four pieces of material. Two pieces, one by four, twenty-seven inches long to form the side members; one piece, one by four by fourteen and one-half inches long for the rear connection and one piece, one by eight by sixteen as alighting board and front connecting member.

The front top corner of the side members is sloped to receive the alighting board which should land flush with the edge of the hive bottom when set on the side to facilitate the bees entering the hive. The rear piece is nailed between the two side ones. Preferably the material should be heart cypress or yellow pine and painted.

W. P. Kinard, Mississippi.

— V —

TO EMULSIFY CARBOLIC ACID

To emulsify carbolic acid without the addition of heat. This is a very simple problem unless one must have the acid within the hour. Bore a hole down through the crystalline acid with a small stick of sound wood and pour it full of water. Put on the cover and shake the container for a moment. Set it aside. Next time you come by, pour off the liquid into an empty bottle. Refill the acid bottle with water. Do not be afraid of getting too much water; you won't.

If you examine it from time to time, you will notice that it is several degrees cooler than the water you added. An endo-thermic (heat absorbing) reaction is in progress. If you have added an excess of water, a little shaking will produce a milk-white fluid containing about 1/3 water, 2/3 liquefied acid; a mixture that is economical to use and perfect for spreading over the acid boards. Personally, I like a little more water making about 50% water, 50% acid.

Tom Edwards,
South Dakota.

— V —

SMOKER CARE

To prolong the life of the smoker, leave the lid open after the smoker is emptied and allow the fire box to cool off at once. This prevents the lid from sticking when it is later opened and it prevents all the damage done from opening a lid that is solidly fastened by a sticky accumulation.

Also I give the fire box an occasional scraping and washing when the accumulation inside indicates the need. Polishing the outside checks rust.

W. P. Kinard, Mississippi.

PROTECTING THE BOTTOM BOARDS

There is much benefit in giving these bottom boards protection from cold winds. Late in the fall when the leaves and the grass are all dead I take a hand rake and carefully rake the entire yard clean and pack the leaves and grass under the hives. My hives are three or four inches from the ground and when they are packed tight this way and carefully wrapped with black building paper, it gives excellent protection and results in strong colonies next spring. The bee yard is also clean and free from fire hazard.

M. N. Freeland, Tennessee.

— V —

BEARS

(Continued from page 393)

and fish, as well as honey and brown sugar, were exposed in both enclosures for bait, and bacon rind was rubbed on the "hot" wires.

"Neither fence was energized during the first night, and the bears then passed freely in and out to secure food."

"Then the fence wires were connected to the controllers, and during the succeeding 6 days about 15 bears were observed to come in contact with the wires. In general, all responded alike to the shock—a backward jerk, a quick turn, and a running departure! One bear, after running some distance, climbed a tree and remained there for an hour. This particular individual instead of "taking it" on the nose or lips as did the others, reared up on its hind legs and placed its forepaws on the top wire. The ground connection, in the cases actually observed, was provided through the feet of the bears rather through either of the grounded wires."

"Later, trails of brown sugar were made outside leading up to and within the fences. This was necessary because the bears had become "wise" and ceased even to approach the fences until the sugar trails were laid down; the bears that approached (during night time) scratched out the earth under the fence to a depth of 3 to 4 inches and reached inside some 5 to 7 inches in efforts to obtain the sugar. In these cases it seems probable that the shock was received through the hair on the legs. No tendency to dig was noted before the sugar was placed nor was there any in places without sugar. It is remotely possible that digging might be extensive enough in time to permit passage under the wire."

"Results from the trials in 1937 indicate that a substantial fence (as

used for livestock) is needed, supported at short intervals by good posts or trees, and with 3 or 4 barbed wires on insulators all connected to one output lead of the controller. The spacing of the wires must be different than for the usual stock fence. On damp soils the other lead may be grounded to a metal stake driven into the earth, but where the soil surface becomes dry, an artificial "ground" as of poultry netting is required. The time between successive impulses must not be long enough to permit an animal to pass through the fence during the interval."

"Experience thus far indicates that protection of apiaries (and probably other establishments) from bears may be had with an electrified fence constructed according to the following specifications:

1. Substantial wooden posts not more than 12 feet apart (trees may be used as available).
2. Four-strand barbed wire fence, strands 6, 16, 28 and 40 inches above the ground, all connected (in parallel) to the "hot" or "live" or "fence" terminal of controller.
3. Battery operated fence controller with interrupter that breaks current not faster than 50 times per minute, limits duration of shock to not more than 0.1 second and current to not more than .015 ampere.
4. Poultry netting 18 inches wide laid on the cleared ground around outside of fence (about 6 inches out from posts) and connected to "ground" terminal of controller and to a metal stake driven 10 inches or more into the earth.
5. Four-cell (6-volt) dry battery unit.
6. Weatherproof box to house battery and controller.

"Such a fence should be marked conspicuously with signs at frequent intervals to warn people that the wires are charged."

The advice is to use a four wire fence. We have tried one of three wires, one of two wires. They do not seem as efficient as the four wire fence.

Loss from bears is a serious proposition. Our own estimated loss for the season of 1944 was $750 which resulted not only from the loss of honey and equipment but also the cost of replacement of bees. For some reason bears in the north country are becoming more numerous, whether they are attracted to the residence of man by more easily obtained foods, or whether their own food supply has become depleted, or whether they have just learned the tricks it takes to outwit man's ingenuity. Some counties and states put a bounty on bears which will reduce them eventually. Meantime the electric fence is perhaps one way partially to control the situation, and reduce the loss.

American Honey Institute

Commercial State Bank Building, Madison 3, Wisconsin

Now that fall is rapidly putting summer in the background of 1945, hearty, man-sized breakfasts are coming into their own. How about distributing the new Honey and Cereal leaflets to your friends and customers? They will welcome the new ideas it contains. A man of excellent judgment says, "The cereal leaflet certainly is a honey, and I think the best folder that the Institute has issued so far!

— V —

Letters have been coming to the office from county home demonstration agents. They write—

"Thank you so much for the leaflets on cooking and canning with honey. I shall enjoy using them and passing on the information to the ladies in my country."

"Your pamphlets on honey are very instructive and I would like a supply for my 4-H club women if they are available."

"We have distributed around 200 honey books to the homemakers in this county, and all who received them are most pleased with them."

From Detroit, Michigan — It is gratifying to be able to obtain honey recipe books from your organization, and you are doing a wonderful service to mankind. I shout 'honey' from the housetops, and with something as practical as your book, the women will soon become acquainted with the delights of honey."

— V —

The Institute is now receiving excellent reports on this year's preserving and canning with honey. Housewives have been delighted with the two leaflets that guided them in their work.

— V —

The Institute has had a number of letters from young men in service who want to return to beekeeping or to start beekeeping when they return. One young man sent dues so that all of the releases will be waiting for him. Too many have made the supreme sacrifice — literally, from "Iceland's icy mountains to India's coral strand."

— V —

The calendars are in great demand. You may still order calendars without imprinting. They are a daily reminder to eat honey. Why not put one in with your Christmas cards? Or send as a New Year's greeting? If you belong to a club, your members will appreciate them.

— V —

Do get your orders for "Old Favorite Honey Recipes" in soon before this supply is exhausted.

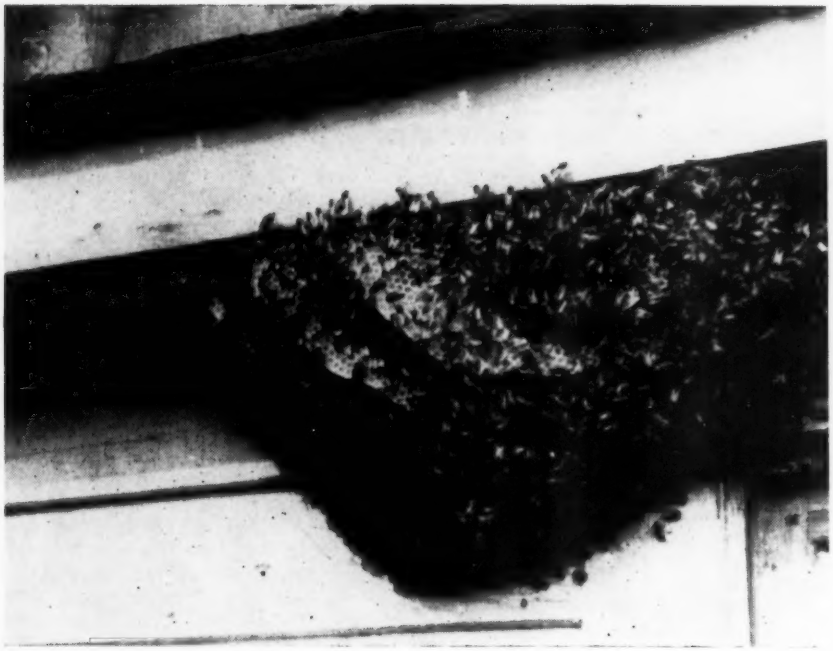
VALUE OF HONEYBEE IN POLLINATING CROPS

By Harold R. Peterson

The honeybee has reached the highest point in the insect world as far as pollinating crops. In its own existence in both larvae and adult stage it depends on pollen for food The habits it has for working one kind of a flower at a time, and then returning to the hive, makes it so much better as a pollinator. Sometimes man has done some very thoughtless things; such as trying to kill off some bad insects by spraying the blossoms on the trees, and when the bees came along to get the pollen and nectar, they were killed by the poison which was applied to the trees. Of all the insects, the bee is most adapted to the process of pollination because his body and legs are covered with millions of tiny hairs. These hairs catch lots of tiny pollen grains and when he moves from one flower to another, he loses some and picks up others. In some places the big fruit growers pay the bee men to bring their bees to their orchards when the trees are being pollinated.

We have many native species of bees, such as bumblebees, carpenter bees, leaf cutter, and others, but none of these get out very early in the spring. The bumble bee is the earliest of the native bees. In the spring the whole colony has to be rebuilt, and the responsibility lays on the queen. All but the queen die off in the winter. She lays and incubates from seven to sixteen eggs. Not until she has raised the first brood can she spend all her time laying eggs.

Minnesota.

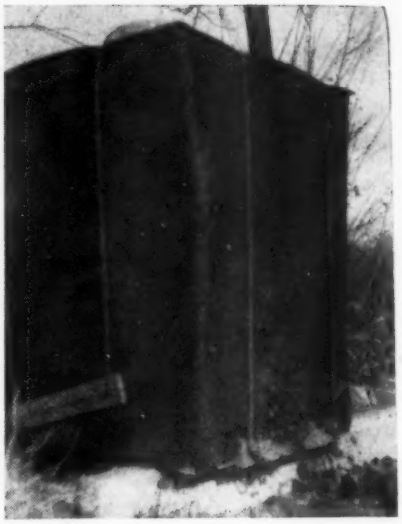


UNDER THE EAVES

Here is a swarm that settled under the eaves of a dwelling, about eighteen feet above ground. There they made comb and raised brood. Charles Struble, Reynolds, Illinois, owned the run-a-ways and John Moss, Aledo, took the picture. Will Egbert, Aledo, gave it to us. (Way round the barn, but here it is.)

UNIQUE CANADIAN APIARY

This picture from E. R. Arndt of Ontario, Canada fully reflects the owner's pride in a neat row of hives, each one with its alighting board and front apron piled high with honey, a delight to the owner and a profitable avocation.



FELT AND CARTON FOR WINTER PACK

We use a double brood chamber for winter with plenty of honey and pollen and a winter covering of a paper towel carton which goes over the top and right down to the 2x4 hive stand. A wrap of slater's felt goes around the paper. Then a piece of 30 pound roofing felt holds down the folded laps on top and binder twine holds the paper firm. Openings are cut below and above. We have top ventilation the year round and use an extra inner cover with an inch notch cut out of the front rim in the center, and a hive staple driven in just enough to keep the metal lid from closing the outlet, and do the bees use it, as you will see in the picture!

We never have wet moldy combs.

Harry Coverstone,
Illinois.

—v—

POLLEN

The last two seasons we have been trapping pollen. All colonies in the yard definitely do not gather pollen from the same sources. For instance, one colony gathered pollen from asparagus only and others gathered from various sources. So everything else being equal it is apparent when one colony is not storing as much as another that the sources from which they are gathering are not the same. The only alternative I see is to move poorer colonies to a different place where there is a chance the bees will begin to work plants yielding more freely or more concentrated nectar.

W. H. McMullin,
British Columbia.

—v—

PUNCH LIKE A BOXER

From down under, Hornby, Canterbury, New Zealand, comes this one of Barry Scott, nephew of H. R. Busch, Cloverfield Apiaries. Says Busch: "Barry found that these Italians had a punch like a boxer when they hit him in the eye." Why, pray tell, do we so enjoy the discomfort of a small boy when he gets one or both eyes shut by the bees? Well, we do (shame on us).

—v—

A NEW BOOK ON TREES

The Louisiana Forestry Commission has recently published a very valuable book. It is "Louisiana Trees and Shrubs," by Prof. Clair A. Brown, of the State University. Since so much of the honey in southern localities comes from trees and shrubs we would urge our readers who are interested in bee pasture to secure a copy of this book. It is unusually helpful to the novice since it has very good photos of bark, leaves and other distinguishing features to assist in identification. It contains 262 pages and is printed on paper of fine quality.

All the major forest trees known to the state are included along with the more common shrubs. We congratulate Prof. Brown and the Forestry Commission on a splendid piece of work which will prove very helpful to those having an interest in Louisiana trees.

For information regarding the book write to the Forestry Commission at Baton Rouge, Louisiana.

—v—

BUY BONDS

NOVEMBER REQUEENING

Says Howard Shipton, Iowa, "Requeen in November." We listened to him at first with misgiving. But, just try anything once. Maybe it will work. We tried it. It did work,—so smooth and with such acceptance that we now use it every year. Choose one of those cold November days (mid-west) when you must wear a jacket, but before the coldest weather.

It is easy to find the queen in the center; remove her and put the new one in where she was, in her cage, with or without attendants. Leave it alone until spring. Caution: Don't try to requeen a poor, small, worn out bunch of old bees this way. You lose them and the queen.

WAR WORKER BEES

We missed using this picture when the story appeared about a war worker's bees. Here it is, Mr. and Mrs. Kornegay of Claypool, Arizona, stand at the edge of their mountain apiary. Note the desert background. It is a relief from the grind of the factory. Many more will find this relief outdoors in the years just ahead. And maybe a certain amount of security, with bees, gardens, small animals, and a country home.

COMING TO FLORIDA? PLEASE--BE CAREFUL!

(Continued from page 398)

would be necessary to cause the disease to develop in a more visible form. Unless the inspector is well qualified for the position he holds, and unless he makes a careful examination of all frames which have been used for brood rearing in each colony, he is likely to issue a certificate not worth the paper upon which it is written. An inspector has no more moral right to sign a certificate, the value of which he himself doubts, than he has to sign a check drawn against a bank in which none of his funds are deposited.

We appreciate the fact that refusal of the inspector to issue a certificate because scales are present, or because the previous infection record of the apiary is such as to make certification of the apiary questionable, may result in the owner being forced to forego his trip to Florida. We doubt if the owner, in such an event, would receive any sympathy from Florida beekeepers. They believe, and we concur with them in this belief, that an infected apiary should be kept under quarantine until after at least two inspections under favorable conditions have been made at intervals of thirty days and no disease found. At the present time there is one Florida apiary that has been under quarantine since February 1940, although no American foulbrood has been found since September 1942. Several other yards have been quarantined since January 1942, although repeated inspections since the fall of that year have been negative. However, it is the opinion of our Apiary Inspector and his assistants that conditions with respect to these apiaries, particularly as to the manner of handling brood and equipment, do not justify the lifting of the quarantine.

As previously stated, the people of Florida are a wholesome and hospitable group of citizens. Florida beekeepers will welcome the practical out-of-state beekeeper who brings in disease-free bees, and otherwise complies with the Board's regulations which apply to both residents and non-residents. Migratory beekeepers who bring in diseased bees, scoff at our regulations, and attempt to tell our beekeepers how to handle infected colonies, will receive a cold welcome and be ordered to move their bees from the state within twenty-four hours. If, in spite of our attempts to secure cooperation on the part of out-of-state beekeepers and their inspection officials, an undue number of apiaries infected with American foulbrood continue to arrive in Florida, the only course left to follow will be promulgation of an embargo prohibiting entry of bees and beekeeping equipment. If such drastic action becomes necessary, non-resident beekeepers who are thereby prevented from spending the winter in Florida with their bees will have only themselves to blame. They cannot blame this office for its determination to regulate the movement of diseased bees. They should not blame their own apiary inspection officials for lack of service or inadequate supervision, unless they (the beekeepers) see that adequate funds are made available for the effective and efficient operation of their apiary inspection departments.

—v—

THAT NEW CLOVER

(Continued from page 395)

American Bee Journal garden it is most promising. They raised many questions as to its adaptation to other soils and climates and what might be expected of it under other conditions.

To answer these questions nearly the entire crop of seed has been placed in the hands of the Iowa Experiment Station. It is proposed to try it on different soils and make numerous tests as to its protein content, its palatability and its usefulness when grown with the grasses in common use.

Soon after the conference some cows from a nearby pasture got into the clover and answered one question. Instead of walking all over the place they started at the edge of the plot and mowed it nearly clean as far as they went. They certainly indicated an eager appetite for this particular plant.

It is highly important to know what the plant will do in the north and south and on clay soils and sandy soils as well as on wet lands and dry lands. Some time must pass before we can find out its limitations as to soil and climate. While no seed is available, live plants can be secured in limited quantity. Melvin Pellett of Atlantic, Iowa, son of our field editor, has a plot grown for the purpose of making available offshoots and root cuttings for those who wish to give it a trial. No claims can be made as to what it will do in any other situation and the plants will be offered for trial only.

Judging from our experience it will be possible to stabilize the bee pasture in localities where it proves successful by planting along the roadsides. Its habit is such that it will not be killed by cutting and apparently when the roads are worked freely and the soil all disturbed, as is so often necessary, it will grow again from the roots covered by the machinery.

Indications are that it is the equal of white Dutch and alsike clovers in its attraction for the bees. Although there were hundreds of acres of white clover blooming within reach of our bees, this little field was swarming with bees during much of its bloom.

The flowering period is very similar to that of alsike and red clover. While there is some bloom earlier and later, the main flowering period is from the first of June until the fifteenth or twentieth of July.

Advantages of this clover as we see them from the beekeepers' standpoint, are: 1) its apparent permanence when once established. 2) its abundant flowers with nectar readily available. 3) its habit of spreading from the root which insures an increase in the stand even though it is not permitted to form seed. 4) the extensive root system which serves to prevent erosion and makes it so attractive for use in soil conservation.

Roots have been found to branch at varying depths below the surface and since a portion separated from main root continues to grow, little damage is indicated from winter heaving. Our original plants dug up at four years of age gave every indication of prospect for a long life. The short life of sweet clover and most other clovers is the worst drawback to their culture. A long lived plant is certainly to be desired from the standpoint of bee pasture.

—v—

FOOD MANUFACTURERS WILL SPEND $600,000,000

Manufacturers of groceries and grocery products will have a larger volume of sales than any other group in America. They will spend well over $600,000,000 this year for machinery and other capital investments according to Paul S. Willis, president of Grocery Manufacturers of America. This outlay is exceeded only by expenditure plans by chemical manufacturers, including petroleum, coal and rubber.

The American public does not realize that it was better fed this past year than ever. The Department of Agriculture figures prove civilian consumption of food in 1944, for instance, was at the highest level of all time.

The food manufacturing industry will re-absorb its veterans and employ an additional 200,000. The industry employs nearly one and one-half million workers. Here is our honey market.

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Meetings and Events

Oregon Association, Portland, December 7-8

The annual meeting of the Oregon State Association will be held in the Public Service Building in Portland, Friday and Saturday, December 7 and 8. During the war the annual meetings have been confined to a single day, but now, with travel restrictions lifted, the former custom of the two day gathering is resumed. A new feature of this year's convention will be the covering of various phases of local beekeeping problems by members of the association who will be assigned their topics. A banquet will be the feature of Friday evening, December 7.

John D. Burt, Sec'y.

— V —

Worcester County (Mass.) Nov. 17

The Worcester County Association will meet at the Museum of Natural History, 12 State Street, Worcester, Massachusetts, November 17 at 7:30 P. M. The speaker will be Charles Mraz of Middlebury, Vermont, Champlain Valley Apiaries. Refreshments will follow the speaking and discussion. Everyone invited.

Henry B. Poole, Pres.

— V —

New Rochelle (N. Y.), Yonkers, November 18

The New Rochelle Association will hold its regular monthly meeting at the home of Mr. and Mrs. Justus Lorenzen, 45 Clark Street, Yonkers, on Sunday, November 18, at 2:30 P. M. A general discussion of the past summer's experiences will be brought up; also new and approved methods for winter packing. Don't forget the "Question Box." Experts will be on hand. Refreshments will follow the meeting.

A. M. Barnes, Ass't. Sec'y.

— V —

S uthern Federation-Georgia Association-Florida Association-Valdosta, December 13.

The Southern States Federation, the Georgia Beekeepers Association and the Florida Association will meet jointly for a two day session at Valdosta, Georgia, Thursday and Friday, December 13 and 14. A more complete program will probably be in the December number.

W. P. Yarbrough, Sec'y.

Indiana, Indianapolis, November 15

The Indiana State Association will hold its annual convention at the State House, House of Representatives, Indianapolis, November 15. Everyone invited. An interesting and instructive program with two out-of-state guest speakers is being arranged.

James E. Starkey, Sec'y.

— V —

Montana Association, Billings November 15 and 16

The annual meeting of the Montana State Association will be held in Billings, November 15 and 16. The program will include fine speakers on different subjects of interest.

Mrs. O. R. Burdett,
Secretary-Treasurer.

— V —

Lehigh Valley (Pa.) Allentown, November 15

The Lehigh Valley Association is holding its autumn in-door meeting at West Hall, Twenty-sixth and Gordon Streets, Muhlenberg College, Allentown, Thursday, November 15, at 7:30 P. M. The principal speaker will be Allen Latham of Connecticut. His subject is "Practical Methods of Queen-Rearing for Honey Producers."

E. B. Everitt, Pennsylvania.

— V —

Illinois State Association, Springfield, November 9 and 10

The Illinois State Beekeepers' Association will hold its 1945 convention, November 9 and 10 at St. Nicholas Hotel, Springfield, Illinois. Banquet evening of the 9th. All beekeepers and friends are invited to attend.

Hoyt Taylor, Sec'y.

— V —

Beekeepers Moving to Texas Take Notice

Beekeepers who plan to move or ship colonies of bees or beekeeping equipment into Texas must make application to the State Entomologist, College Station, Texas, in advance and send their certificate or a certified copy of it with their application before a permit will be issued. Certain locations in Texas are crowded and it has become necessary to take greater precautions to guard against introduction and spread of American foulbrood.

F. L. Thomas,
State Entomologist.

FEDERATION NEWS LETTER

OUR BY-LAWS

Several inquiries have come to this office in the past few weeks as to the various provisions of our By-Laws and since they have not previously been published they are given herewith as they were amended and adopted at the annual meeting last January.

BY-LAWS
of the
National Federation of State Beekeepers Associations

Article I—Name

The name of this association shall be the National Federation of State Beekeepers' Associations.

Article II—Purposes

The Federation is formed for the following purposes:

1. To promote the general welfare of State Beekeepers' Associations and their members.

2. To further the development of bonds of friendship, understanding and mutual helpfulness among state beekeepers' associations and their members.

3. To foster and encourage research in bee culture and to cooperate with the Federal Government, agricultural colleges and other agencies in research and educational programs designed to aid and further the interests of the beekeeping industry.

4. To cooperate with the American Honey Institute in its promotional activities to increase the use of honey.

5. To serve as a clearing house for the dissemination of vital information to beekeepers.

6. To promote such legislation as will further the interests of the beekeeping industry and to oppose legislation which would adversely affect it.

7. To foster the adoption of such Governmental regulations and the making of such orders and decisions as will facilitate further development and progress of the beekeeping industry and to oppose the adoption of such regulations and the making of such orders and decisions as may be deemed inimical to the interests of its members.

8. To cooperate with other associations in the beekeeping industry in creating a central or national association for the purpose of furthering the interests of the beekeeping industry, and to become a member of such central or national association.

9. To engage in any activity which, in the opinion of the Federation, will promote the common interests and

general welfare of its member-associations.

Article III—Membership

Section 1. Membership in the Federation shall consist of two classes. Any association or individual may become a member of the Federation upon application for membership and its acceptance by the Executive Committee of the Federation. The rights, powers and duties of each member-association shall be exercised by and through its delegate, or alternate, to the Federation.

Section 2. The Federation shall issue a certificate of membership to each member, which shall be in such form as may be prescribed by the Executive Committee. The membership certificate shall not be transferable.

Section 3. Annual membership dues shall be a minimum of five cents (5c) per member of each beekeepers' association affiliated with the Federation, with a minimum fee of five dollars ($5.00). Membership dues of individuals shall be five dollars ($5.00). The amount of annual dues may be changed at any meeting providing that notice of the proposed change has been sent to each member by the Executive Committee not less than 30 days before the annual meeting of the Federation.

Section 4. A member may withdraw from the Federation at any time by notice in writing to the President of the Federation.

Section 5. Any membership may be terminated by a majority vote of the Executive Committee present at any meeting, after thirty days notice by Secretary of such proposed action and opportunity to present an oral or written statement to the Executive Committee.

Article IV—Regions

To permit more detailed consideration of beekeepers' problems having application to particular sections or regions of the United States, to insure a better understanding of such problems, to aid in furthering the spirit of fellowship among beekeepers, and to facilitate the selection, on a regional basis, of representatives for service on the Executive Committee, the Federation establishes the following regions and specifies the states which shall be included in each region:

Region 1. Washington, Oregon California, Nevada, New Mexico and Arizona.

Region 2. Idaho, Montana, Wyoming, Utah, Colorado, Nebraska, Kansas, North Dakota, South Dakota.

Region 3. Minnesota, Iowa, Missouri, Wisconsin, Illinois, Michigan, Indiana, Ohio and Kentucky.

Region 4. Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, Pennsylvania, New Jersey, Maryland, Deleware and West Virginia.

Region 5. States of the Southern Beekeeping Conference, including Texas, Oklahoma, Arkansas, Louisiana Tennessee, Georgia, North Carolina, Mississippi, Alabama, South Carolina, Florida and Virginia.

Delegates of the member associations from each region shall elect one of their own members to act as regional representative on the Executive Committee.

Article V—Executive Committee

Section 1. The Executive Committee shall consist of the President, Vice-President, Secretary-Treasurer, and one representative from each region of the Federation. The Executive Committee shall have power to act in all matters not in conflct with policies adopted by the Federation.

Section 2. The annual meeting of the Executive Committee shall be held immediately following the regular annual meeting of the Federation. Special meetings of the Executive Committee may be called by the President at such times as he may deem advisable for promoting the work of the Federation.

Article VI—Officers

Section 1. The Federation at each annual meeting shall elect from among their own members a President and a Vice-Fresident. A Secretary-Treasurer shall be chosen and employed by the Executive Committee.

Section 2. All officers shall be elected for a term of one year, to serve until their successors are elected and assume office.

Section 3. The President shall preside at all meetings of the Federation and the Executive Committee, and shall perform such other duties as m v be indicated in other sections of these by-laws. He shall submit an annual report to the Federation.

Section 4. In the absence of the President his duties shall be performed by the Vice-President.

Section 5. The Secretary-Treasurer shall keep the books and records of the Federation and perform such other duties as may be indicated by these by-laws or as may be directed by the Executive Committee.

Section 6. The Secretary-Treasurer shall have the custody of the funds of the Federation and shall disburse the same upon vouchers approved by the President. He shall make a report at each annual meeting concerning his activities including an accounting for all funds received and disbursed by him.

Section 7. All officers shall perform such additional duties as may be assigned them by the Federation or the Executive Committee.

Article VII—Amendments

These by-laws may be amended by a majority vote of those present at any meeting of the Federation.

Possible Changes

No one has claimed that these by-laws are perfect or that they fully cover the aims and objectives of this organization. Neither has there been any serious objection. They provide a framework upon which to build a bigger and better national organization of beekeepers and if any changes can be suggested that will help make the organization still bigger and still better then those changes should be made.

The name is objectionable to some because it is too long and too cumbersome. Since many of our affiliated organizations are not actually State Associations it might be well to drop the word State from the name.

The question of voting privileges is not quite clear. Individual members have a vote and it might be advisable to allow each member association more than one vote as now seems to be provided. Perhaps the number of votes for each member association could best be arrived at by dividing the membership fee of the association by $5.00.

These are passing thoughts and not requests for changes. If the Federation has the support of a majority of the beekeepers and is rendering the service they expect it to render, then there is little to be gained by frequent changes or additions to the by-laws.

The one change that definitely will be considered at the next annual meeting is the increase of minimum dues of affiliated associations. Consideration of this change is made necessary by a resolution adopted at the last meeting and which is as follows:

"It is recommended that notice now be issued to all member associations that it is proposed at the next meeting of the Federation to increase dues to twenty-five cents (25c) per member of associations that are members of the Federation."

As provided in Article III, Section 3, of our by-laws, notice is hereby given by and for the Executive Committee to all members of the Federation that the above quoted change in membership dues will be given consideration at the next annual meeting.

Any other changes that may be proposed should be presented in writing to the Secretary so they may be included in the December News Letter. This will allow all members to be fully informed before reaching the meeting and will permit more time for other matters of interest during our limited sessions.

Rehabilitation Committee

Beekeepers should know more

about the Rehabilitation Committee and the important work they are doing.

Elmer Carroll, Rr. 5, Box 181, Lansing, Michigan, genial editor of the Beekeepers Magazine is the chairman and the other members are H. J. Rahmlow, 424 University Farm Place, Madison 6, Wisconsin, and John F. Reinhardt, Georgia Coastal Plains Experiment Station, Tifton, Georgia.

In a recent letter from Mr. Carroll about the work of this committee he has this to say:

"Surveying the letters I have received from veterans, I note that many want to jump right in and make a guaranteed full time living from beekeeping. Of course this has meant a letter of caution on starting small and slowly, and that everyone does not succeed. And that there are such things as foulbrood, winter losses, and short crops at times. I also suggest they tie in some other occupation, such as poultry, small fruit or truck farming.

Most of those seeking education ask for a complete college course, which of course is not adequate or practical. It all seems to jell down to this: To recommend that the veteran list his name with us and we will try to find a position for him with a successful honey producer, where he can earn while learning in a practical, and probably the best manner.

It will help, if in your News Letter, you appeal to beekeepers to list their names with us, so we can obtain a few more outlets for these men. They should state wages paid to a beginner, and what they will pay later when he acquires good knowledge. Also months of periods of employment."

Lend this committee your best support, and, through them, help the returning veteran make the proper start toward keeping bees better.

Membership

458 Individuals.
40 State Associations.
9 County or Local Associations.

Individual memberships continue to come, slowly but regularly. There seems no lack of enthusiasm on the part of those who know about the Federation and its program and this leads to the conclusion that many of our beekeepers have not had it brought to their attention. Under our present financial set-up the individual memberships are the chief source of funds for carrying on and enlarging our program of service. Tell your beekeeper friends about it and give them the opportunity to contribute in this small way to the support of such a large endeavor.

Associations continue to come into the folds and we now have forty-nine, or one more than there are states. Not quite all of the states are represented

(Please turn to page 415)

Bee Books *as*
Christmas Gifts

Please all members of the family by making your selections from those listed below. The special book, the general one, for the layman, for the beekeeper. We have a full line. ALL PRICES POSTPAID.

HONEY GETTING by E. L. Sechrist, formerly of the U. S. D. A., as beekeeping specialist; also a commercial beekeeper operating in the United States, and in the tropics; analyst on beekeeping costs for the United States Government. Something brand new in bee books, entirely devoted to elaborating the principles behind getting a maximum crop at a minimum of expense. Limited edition at low price. $1.50.

BIRDS OF THE WILD by Frank C. Pellett. A book of absorbing interest to the bird lover who wishes to attract his feathered friends to his home garden. $1.00.

FIRST LESSONS IN BEEKEEPING by C. P. Dadant, (revised by M. G. and J. C. Dadant). A reliable guide to things you must know first about bees, hives, producing honey, etc. Suggests management for a few colonies, the small apiary. $1.00.

DADANT SYSTEM OF BEEKEEPING by C. P. Dadant. Methods of using the large hive. A system of beekeeping which proved a success through three generations of beekeepers. Available also in French, Spanish and Italian. 120 pages. Cloth. $1.00.

BEEKEEPING by E. F. Phillips. A comprehensive study of beekeeping theory and practice. The author is professor of apiculture at Cornell University. $4.00.

PRODUCTIVE BEEKEEPING by Frank C. Pellett. One of the standard works on beekeeping, by the author of "American Honey Plants," "Birds of the Wild," and other books. $3.50.

OUTAPIARIES by M. G. Dadant. An outline of the equipment, location and management necessary in operating an outyard system. 125 pages. Cloth. $1.00.

THE LIFE OF LANGSTROTH by Florence Naile. This is the life history of L. L. Langstroth, America's master of bee culture, and is a book every beekeeper should have in his library. Cloth bound, 215 pages, price $2.00.

FLOWERS OF THE WILD by Frank C. Pellett. How to transplant wild flowers and grow them successfully in the garden. Illustrated with photographs by the author. $1.00.

BEE VENOM THERAPY by Bodog F. Beck. A doctor's findings in his use of bee venom in the treatment of rheumatism. 230 pages. Cloth. $5.00.

LIFE OF THE BEE by Maurice Maeterlinck. One of the bee classics. A poetic treatment of the behavior of the bee colony. $2.50.

HISTORY OF AMERICAN BEEKEEPING by Frank C. Pellett. The fascinating story of the beginning and growth of America's honey industry. 213 pages. Cloth. $2.50.

HOW TO SUCCEED WITH BEES by Atkins and Hawkins. A 100-page book on planning your bee work to best advantage. Now in its eighteenth edition. Paper. $_.55

HONEY AND YOUR HEALTH by Bodog Beck and Doree Smedley. A revised edition of Beck's earlier work. Beck's work represents the only attempt so far to cover the subject of HONEY by itself. Cloth, 240 pages. $3.00.

ANATOMY AND PHYSIOLOGY OF THE HONEYBEE by R. E. Snodgrass. The authoritative text on the subject. $3.50.

BEEKEEPING IN THE SOUTH by Kenneth Hawkins. A special study of southern beekeeping. $1.00.

PRACTICAL QUEEN REARING by Frank C. Pellett. Brand new edition of this thorough work. Only book in this field. Cloth, illustrated, 100 pages. $1.00.

A LIVING FROM BEES by Frank C. Pellett. Combining the results of many years' experience, with the latest developments and improvements in beekeeping. As the title suggests, this book is designed to explain how a living can be made from bees. 300 pages. $2.00.

CITIES OF WAX by J. C. Kenly. A popularly written story of the bee and its works, illustrated by drawings. 250 pages. Cloth. $2.50.

BEE CRAFTSMAN by H. J. Wadey. New book which gives you British beekeeping, but applicable as well here. Cloth, 100 pages. $1.00.

SWARMING AND ITS CONTROL by Snelgrove. Authoritative English work by one who has made a thorough study of his subject. Cloth, 100 pages. $1.50.

A.B.C. & X.Y.Z. OF BEE CULTURE by A. I. & E. R. Root. As its name indicates, a complete encyclopedia of bee culture edited and published by the Roots. Material arranged alphabetically by subject. New 1944 reprint. Postpaid. $2.75.

SEND YOUR ORDERS TO

American Bee Journal

HAMILTON, ILLINOIS

CROP AND MARKET REPORT

Compiled by M. G. DADANT

For our November issue, we asked reporters to answer the following questions:

1. What is the total average estimated crop per colony in your section for 1945?
2. Is this more or less than 1944?
3. How are bees going into the winter
   for bees?
   for stores?
   for good queen?

Total Crop This Year

Conflicting reports come in as to the total crop for the year, but it seems evident that the northeastern section of the country will have a crop ranging in total from 30 to as high as 100 pounds per colony, with New Jersey practically an entire failure. Vermont and northern and eastern New York fared the best along with some sections of Pennsylvania.

From Virginia south, the crop varies from 10 pounds to 35 pounds per colony, running perhaps 50 to 60 pounds in Florida.

In the south central states, the crop will run from 30 to 50 pounds per colony and perhaps somewhat more in Texas, Arizona and New Mexico.

Ohio is short again, with a crop of perhaps 25 to 35 pounds while Indiana runs 60 to 70 pounds and Illinois from 75 to 100 pounds, with Iowa the best of all the western states running from 100 to 200 pounds, with Missouri about 100 pounds. Arkansas about as good as Missouri, but perhaps a little less.

Southern Michigan is short again with some 30 pound average, northern Michigan running much better with 75 to 100 pounds. Wisconsin is another good state this year, the average running from 100 to 175 pounds and Minnesota quite a surprise along with North Dakota, the average is going from 90 to 150 pounds. The Black Hills section of South Dakota probably is 50 pounds, and Nebraska another high spot running from 100 to 150 pounds, with Kansas somewhat less, going from 50 to 100 pounds. Eastern Colorado is conflicting, some averages being only as high as 20 pounds and some running up to 60 pounds. Western Colorado is much better with 100 pound average. Wyoming probably will run from 60 to 100 pounds with Utah only 30 or 40 pounds,but much better than last year. Nevada is a disappointment with probably a 50 pound average and Montana has much less than last year, with the highest average of 106 and low of 40 or 50 pounds. Idaho is not a failure this year, but the average will not run over 30 to 40 pounds. Washington and Oregon are very good, owing to late crops. California has not improved her earlier position, having only 30 or 40 pounds, although some sections, particularly the southern, are better than a year ago. The Canadian provinces will average probably 75 pounds with the western provinces the best and Quebec and Ontario the lowest.

More or Less Than Last Year

The New England states probably have considerably more honey than last year. New York about the same, New Jersey much less and Maryland perhaps more with the southeastern states all running from 20 to 75 per cent of last year. Alabama and Mississippi, however, have far more than a year ago and it is probable that Louisiana and Texas will finish with 20 per cent more than in 1944.

Pennsylvania probably will have more honey than last year with Ohio only about 60 per cent, Indiana 120 per cent, Illinois likely 200 per cent and Iowa from 150 to 300 per cent, Missouri and Arkansas about the average.

It appears Michigan would only have about 80 per cent, the colony average of last year, with Wisconsin running 150 per cent and Minnesota probably 125 per cent. North Dakota far above last year with western South Dakota shorter. Nebraska has a far better crop than last year, as do Kansas and Oklahoma. Eastern Colorado much poorer and western Colorado better. Wyoming apparently is less than last year as is Nevada and Montana. Utah even though with low average has much better than the almost total loss of last year. Washington and Oregon are better than a year ago, but California is less except in a few favored sections.

Bees Going Into Winter

Apparently all around, the late crops have been of decided advantage to the bees and practically everywhere bees are going into winter in good to excellent shape, with some discouraging reports from Florida, Arkansas, Michigan, Oregon and California.

For stores, practically all states are satisfactory, although the southeastern states where the crop has been extremely poor leave a question as to whether bees will have enough to carry them through even in their mild climates. Michigan has many short stores as does Wyoming, Washington and California. In other words, where the crop has been short, the possibilities are that bees will have difficulty in living on the stores that have accumulated since extracting.

In the matter of queens, we find large percentages of the reports to the effect that there has been little opportunity to examine the brood n sts and determine whether the bees have satisfactorily requeened themselves or may have old queens for going into the 1946 season. There is no doubt in the writer's mind that many queens which have been put to it on account of the long and irregular flow in 1945 to be sufficiently good to carry on into 1946 and develop a satisfactory brood nest. We have been criticized for suggesting that much requeening should be done this year. However, our inquiries were more in the line to determine whether or not care had been taken to see that the bees had requeened themselves or that requeening had been done. More and more, larger beekeepers are considering yearly requeening or at least every two years. This year, however, owing to the shortage of help probably less requeening has been done than usual, and intermittent flows have perhaps had the result that the bees themselves have not done the replacing of queens that might have been done ordinarily. We look for many of these queens to show up missing or with short brood rearing next year with the evident possibilities of small clusters during the spring or perhaps much swarming.

All in all, we would not anticipate that the condition of the queen is nearly as good as it was a year ago with perhaps not quite as many stores and bees not in any better shape for clusters themselves. However, the 1944 fall season was somewhat exceptional and perhaps bees throughout the country will average normal conditions for winter.

—V—

BUY BONDS

• THE MARKET PLACE •

BEES AND QUEENS

CAUCASIAN and CARNIOLAN package bees April, May, 1946 delivery. Booking orders at 1945 prices. Tillery Brothers, Greenville, Alabama.

TRY OUR THREE BANDED Italian bees and queens for 1946. Booking orders now. Alamance Bee Company, Geo. E. Curtis, Mgr., Graham, N. C.

PACKAGE BEES, QUEENS, Italians, Circular free. Crenshaw County Apiaries, Rutledge, Alabama.

HONEY AND BEESWAX WANTED

HONEY WANTED—LET US SEND YOU A MONEY ORDER FOR YOUR HONEY. Write us what you have in 60 lb. tins, and what you want for your HONEY. O'Donnell & Co., 4840 Drexel Blvd., Chicago 15, Illinois.

WILL PAY an extra price for pure ASTER honey. Send sample. Robt. W. Lane, Greeneville, Tenn.

EXTRACTED HONEY, any amount. Will pay cash. Lose Brothers, 206 E. Jefferson St., Louisville 2, Kentucky.

HONEY WANTED—Top prices paid. Write immediately. J. Wolosevich, 6315 So. Damen Ave., Chicago, Illinois.

HONEY WANTED—All grades, carloads or less. Also beeswax. Pay top prices. H. & S. Honey & Wax Company, Inc., 265-267 Greenwich St., New York 7, N. Y.

WANTED—Extracted clover honey in 60's. B. I. Evans, Windom, Minnesota.

CLOVER HONEY WANTED—Top prices for extracted, section, and shallow frame comb. Any quantity. State whether you can deliver. KEDASH BROTHERS, Chillicothe, Ohio.

WANTED—Comb and extracted honey. Clifford H. Denny, 483 Moody Street, Akron 5, Ohio.

WANTED—All grades of honey, carloads or less. We pay ceiling prices in cash, call for it or arrange for shipment. Sell your honey to us and we will stick by you always. The Honey Moon Products Co., 39 E. Henry St., River Rouge 18, Michigan.

WE PAY CEILING PRICES for wax, and remit the day the wax is received. Your wax made into medium brood foundation at 12 c per lb. The Hawley Honey Co., Iola, Kansas.

HONEY AND BEESWAX. HIGHEST PRICES PAID. MAIL SAMPLES, ADVISE QUANTITY. BRYANT AND COOKINHAM, LOS ANGELES, CALIFORNIA.

HONEY WANTED—All grades and varieties. Highest cash prices paid. Mail samples. State quantity. HAMILTON & COMPANY, 1360 Produce Street, Los Angeles, California.

WANTED—Extracted honey, white or light amber, in 60's. Ed. Heldt, 1004 W. Washington St., Bloomington, Illinois.

HONEY WANTED—Small or large lots. Send sample and amount. Rocke Apiaries, Eureka, Illinois.

CASH FOR YOUR WAX the day received. Write for quotations and shipping tags. Walter T. Kelley Co., Paducah, Kentucky.

ALL GRADES extracted honey wanted. Bee supplies and honey containers for sale. Prairie View Honey Co., 12243 12th Street, Detroit, Michigan.

Copy for this department must reach us not later than the fifteenth of each month preceding date of issue. If intended for classified department it should be so stated when advertisement is sent.

Rates of advertising in this classified department are eight cents per word, including name and address. Minimum ad, ten words.

As a measure of precaution to our readers we require reference of all new advertisers. To save time, please send the name of your bank and other reference with your copy.

Advertisers offering used equipment or bees on combs must guarantee them free from disease or state exact condition, or furnish certificate of inspection from authorized inspectors. Conditions should be stated to insure that buyer is fully informed.

CLOVER HONEY WANTED—Small or large lots. Send sample, state quantity, and how packed. Ellsworth A. Meineke, Arlington Heights, Illinois.

HONEY FOR SALE

CLOVER HONEY packed in glass unlabeled. One, two and five lb. sizes. John Tideswell, 2711 North 63rd Street, Omaha 4, Nebraska.

SUPPLIES

YOUR WAX WORKED into high quality medium brood foundation for 16c pound; 100 pounds $12.00. Fred Peterson, Alden, Iowa.

BEEKEEPER'S HOIST—$25.00, frt. prepaid in states. Turner Mfg. Co., Corning, Iowa.

SAVE ON HONEY CONTAINERS IN MINNEAPOLIS. Pre-war quality tin and glass honey containers at pre-war prices. Friction top pails are back. Send for price list. Prompt shipments made from large stock of Lewis-Dadant bee supplies. Send list of needed supplies for quotation. TOP PRICES PAID FOR HONEY AND BEESWAX IN CASH OR TRADE. HONEY SALES COMPANY, 1806-08 No. Washington Avenue, Minneapolis 11, Minnesota.

PORTER BEE ESCAPES are fast, reliable, labor savers. R & E. C. Porter, Lewistown, Illinois.

WRITE FOR CATALOGUE. Quality bee supplies at factory prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies, Onsted, Michigan.

LARGE CASH SAVINGS can be made by letting us work your wax into either wired or plain foundation. Large independent factory manufacturing a complete line of bee supplies including extractors, etc. Selling direct saves you the agent's profit. Quick shipment from large stock. Large free catalogue explains everything. Walter T. Kelley Co., Paducah, Kentucky.

FOR SALE

ONE THOUSAND COLONIES bees, including three comb supers around, and also new honey house one year old, with complete extracting equipment, all new. Hives and supers are all 10 frame standard and the best that money can buy. 80% of the queens are last spring queens. Address Buhl, Idaho, Box 703.

A BUY—25 pound boxes Dadant crimped wired foundation in 8⅛x16¾ and 4 9/16x16¾ inch size at 60c per pound. Pauline Rife, Meriden, Illinois.

500 COLONIES, 10 frame factory equipment for immediate sale. Equipment 3 years old. Certificate of inspection furnished. John Tideswell, 2711 North 63rd St., Omaha 4, Nebraska.

FOR SALE—165 colonies bees, 10 frame one story hives, good condition, located in southeastern Georgia. Excellent package territory. Also 40 new complete hives and about 125 package shipping crates. No disease. First $900 cash takes it. No triflers. W. C. Long, 1325 Andre St., Baltimore, Maryland.

FOR SALE—Special Opportunity—Complete package bee and honey business in the heart of the Sacramento Valley of Northern California. Over 3,000 colonies—all standard ten frame dovetail equipment no junk, large ware house and other buildings, equipped with modern extracting equipment, tanks, wax house, steam boiler. Two good trucks and attractive modern home on paved street. Everything first class and a fine established business, showing a consistent profit over twenty years. Thos. C. Burleson, Box 239, Colusa, California.

FOR SALE—500 hives of bees in Midwest, $8.00 per colony. Mostly 10 frame factory built with metal telescope covers. Guaranteed clean. Preparing to go abroad. Must sell. Box XX, American Bee Journal.

HONEY BUSINESS FOR SALE—65 two story 18 frame colonies in Northern Michigan. Complete painted equipment for 10,000 pounds surplus. Insulated 16x24 foot concrete bee cellar. Honey house overhead. Established market for honey. Health of bees guaranteed. Opportunity for younger person. Herbert M. Bachman, Hillman, Mich.

FOR SALE—4 fr. Root automatic power extractor, 180 tank, uncapping tank, capping melter, wax press. All in good condition. Also ten 10-frame double hives with bees, young queens and plenty honey for food, guaranteed free of disease. Rev. F. Schedtler, Sumner, Iowa.

1200 8-fr. standard hive bodies with frames, wired foundation and drawn combs; 300 covers; 300 bottom boards; 300 queen excluders; 1 4-fr. reversible extractor; 1 honey tank and other material. Used only two seasons. The first reasonable offer gets it. For further particulars write Jasper Knight, Hayneville, Alabama.

FOR SALE—A 2 frame honey extractor like new—never used. Price $10.00. Charles A. Mazur, 2638 W. 25th St., Chicago 8, Illinois.

COMPLETE fully equipped outfit of 1500 hives, nuclei, extractor, tanks and established package and honey production in central and northern California. Al Winn, Rt. 1, Box 729A, Petaluma, California.

WANTED

WANTED FOR CASH—Located in eastern North Dakota or western Minnesota, 100 standard factory made 10 fr. telescope tops, metal covered, 200 standard 10 fr. factory made hive bodies. Write net price in first letter. H. A. Schmitt, Box 449, Mandan, North Dakota.

WOODMAN'S 30 frame Radial extractor and pump. Leonard Miller, Piper City, Illinois.

WANTED—Any number of bees up to 500 colonies with supers, in Wyoming or Colorado. Herbert J. States, Saratoga, Wyoming.

WANT TO BUY Modified 11 frame hives. Francis Schilling, Rt. No. 1, Freeburg, Ill.

WANTED—Rosedale electric uncapping plane and honey pump. W. Elges, Griswold, Iowa.

WANTED to hear from owner of farm or unimproved farm for sale. Wm. Holly, Baldwin, Wisconsin.

POSITIONS AND HELP WANTED

AN EXPERIENCED QUEEN BREEDER wanted for 1946 season, or one who wishes to learn queen breeding. No better place

FEDERATION NEWS LETTER

(Continued from page 410)

though as nine of these affiliated associations are county or local organizations.

Iowa, the state of tall corn and tall beehives, paid their affiliation dues for 457 members with a check for $228.50. Arrangements for this generous support of the Federation were made some eight months before the office of the Secretary-Treasurer was moved to Iowa. Your Secretary-Treasurer is more than proud to be serving as President of this Iowa Association.

The South Carolina beekeepers sent the affiliation of their Palmetto State Beekeepers Association but failed to mention the number of members. Likewise, the Pennsylvania State Beekeepers Association failed to state the number of members when they remitted their dues. Vermont reports 23 members and the Tampa Bay Beekeepers Association, a local group, have 30, with more expected soon. To each and all of them goes the thanks of the Federation. This office would like to have for the files a complete list, with mailing addresses, of the members of each association. Some of them we now have and if the others can be sent in soon it will be considered a great favor.

Out-of-Town Schedule

Your Secretary has been requested to meet as many beekeepers as possible and to attend as many meetings as can be arranged. It may be wise to announce through this News Letter the time and place of those meetings that have been definitely scheduled. At this moment there is but one; The Arkansas Beekeepers Association meeting in Greater Little Rock on November 26. Every effort is being made to arrange travel schedules to save time and miles.

—V—

THE IMMEDIATE EFFECTS OF REQUEENING

I had a strong 4-story colony of bees so cross they would kill a fellow if they had half a chance. Every time I opened the hive the bees would fly at me to beat the band. Then I put a good Caucasian queen with them, after finding the old one and pinching off her head and dropping her back into the hive to let the bees know she was dead. In about ten days I looked to see how things were going. The bees were as quiet as though they had always been that way. None tried to sting me. I believe this was the immediate effect of the new queen although her bees would not be present in the colony for considerable time.

Frank A. Korn,
California.

—V—

TO PACK OR NOT TO PACK

(Continued from page 392)

he has the advantage but he is fooling himself more than he thinks because the amount is not sufficient for winter and the spring build-up. He must resort to spring feeding to make up the deficiency and that is another expense in sugar and labor.

The third qualification of this proposed method is shelter from the prevailing winds. The writer learned this at the cost of almost an entire apiary last winter. The yard was located adjacent to a large apple orchard to the east. On the north and west sides there was a row of dense pine trees which the farmer had planted years ago as a wind break for the orchard. The setting seemed ideal when the yard was moved there but we had not taken the fancy of the farmer into consideration. He got the notion to improve the appearance of pine trees by trimming off all the branches up to five feet from the ground. The result was that the wind held back by the branches above swooped under the trees in a constant gale which blew all the snow away from the hives. The result was the loss of thirty-five colonies out of fifty. Nearly all of these colonies died with plenty of honey within an inch of the cluster. They starved and froze in the midst of plenty simply because the cold wind never permitted the inside of the hive to warm up enough for cluster to move. Contrast this situation we have described with the picture accompanying this article which shows a corner of another yard with protection from winter winds. The picture was taken on the afternoon of January 26th, just after the bees had a cleansing flight although the temperature in the shade was only 38 above. The winter sun had warmed up the interior of the hive due to absorption of heat by the black paper and the bees not only had access to fresh stores but enjoyed a flight as well. In that yard there was only the loss of two out of forty.

Any method in beekeeping that works well with one and fails with another usually has some attending cause for failure. In outdoor wrapping it may be due to too small a cluster, insufficient stores, or inadequate protection from cold winds.

THE POSTSCRIPT

John A. Bonney, of Hume, Saskatchewan, reports that his bees did not build up normally in the early part of the season and that they were cross until after the eclipse of the sun. Progress was rapid after that time and temper was improved and he raises the question as to whether the eclipse had any effect upon the bees. Who can tell?

—V—

The transfer of H. B. Parks from the bee culture field station near San Antonio, Texas, to botanical work at College Station will be noted with regret by a large circle of friends among the beekeepers. H. B. Parks is a valuable man in any field of science. He is a capable botanist, an efficient field naturalist and a well informed apiculturist. He has rendered valuable service to the honey producing industry and he will be greatly missed. Let us hope that in his new position he will find time to complete a bulletin on the honey plants of Texas equal to the two botanical publications on the flora of that state already to his credit.

—V—

B. A. Chandler, of Westmoreland Hills, Maryland, reports that bees go crazy on sumac on clear warm days for a period of about two hours. He has never seen them so active on any other plant. They continue to visit the flowers all day in smaller numbers. The soil is a sandy clay loam which gets very hard in dry weather. While I have had sumac for thirty years I have never seen bees work the blossoms on our rich black Iowa soil. At the same time the anise-hyssop, which is so attractive to them in my garden, fails to hold much interest for the bees with him.

On the other hand the golden honey plant or wingstem, **(Actinomeris alternifolia)** attracts the bees both in Iowa and Maryland equally well. It is hard to understand the reason for these differences.

—V—

Harold my young grandson, has shown great interest in everything relating to bees and has accumulated magazines and bulletins to such an extent as to offer something of a problem to his mother. When he told L. C. Dadant of his ambition to own some bees and of the savings he had made with that end in view, Mr. Dadant gave him a colony in a Dadant hive. He was ble to sell about $27.00 worth of honey from his first crop, a substantial sum of money for a seven-year-old boy. He says he will buy more bees with the money.

—V—

In the days when remedies were prepared at home instead of bought at the drug store, propolis was used to bring relief for corns. It is claimed that warm propolis spread on a cloth and placed over the corn will in time cause it to drop off. Since I have no corns I am unable to put the remedy to the test of a personal application.

—V—

Channing Cope, in his column on the Atlantic Constitution, tells an interesting story of his experience with the new insecticide DDT. He freed the cat from fleas, deloused the pig and rid the house of flies and mosquitoes. After recounting his experiences he added a word of warning as follows: "But we must remember that DDT will kill bees and that means it will kill the clover (which means too that it will kill off our livestock.) It will destroy the fruit crops which are dependent upon bees for pollination. It will kill off most of the flowers for the same reason and will wipe out many of our vegetables. It is clear then that the scientists have given us a great tool for our betterment. It is equally clear that we must use it wisely."

—V—

With the month of October I have completed thirty years of association with the American Bee Journal. I did little but look on for the first months since C. P. Dadant made all the decisions as to what should go into the magazine. In the thirty years I have had the responsibility for about everything connected with the publication of the magazine at one time or another. Now it is Cale who assembles the magazine and I am for the most part an onlooker once again.

—V—

Thirty years have made great changes in the industry. When I came Dr. C. C. Miller was still very active. J. E. Pleasants, of California, was a regular contributor to the Journal and F. Dundas Todd, an early inspector from British Columbia, was much in the public eye. J. E. Crane, of Vermont, and Dr. A. F. Bonney represented opposite extremes of leadership. Crane was a capable commercial honey producer and Bonney was an enthusiastic hobbyist but both were well known. One of the first things that I did was to persuade Dr. Miller to write his life story which began in the December 1915 issue of the Journal.

—V—

If space permitted, incidents relating to a long list of men prominent at that time would add interest to the events across the years. E. F. Atwater, J. M. Davis, J. F. Diemer, N. E. France, B. A. Hadsell, R. F. Holterman, M. H. Mendleson, J. H. Lovell, L. H. Pammell, F. E. Millen, Frank Rauchfuss, A. I. Root, Eugene Secor, George Demuth, and many more were very familiar to the readers of the bee press of that time. Now they are all gone and others have taken their places.

—V—

Harry W. Beaver, of Troy, Pennsylvania, reports a total of 572 pounds of honey from one colony. The crop was 325 pounds of clover and 247 pounds of buckwheat. So already my colony that made a net gain of 549 pounds is outdone. We may have had colonies equal to Beaver's crop but the honey was not weighed so we are not sure. Thus far he stands as champion for 1945. Who had a colony which produced more? We would like to know what the record yield for this year has been.

—V—

Several reports have come in, answering the request for information about peanuts as a source of honey. Some say that they have never found the bees on peanut blossoms, others say only rarely do bees visit the flowers. All agree that the peanut is of little value for bee pasture. So far not one has reported getting honey worth while from peanuts.

—V—

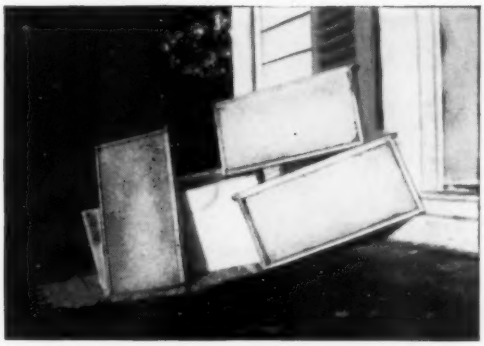
Among a group of Chinese students now in this country to make a study of American agriculture is Prof. Li Chen-Kang from the University of Nanking. He has been in charge of apiculture in that institution and will spend some time traveling in different parts of this country in order to become familiar with our methods. Now that the war is over we can look for more visitors from abroad and we should offer every opportunity for them to see American honey production at its best and find something worth taking back to their own countries.

—V—

We have made substantial increase in our honey crop by keeping the bees in two-story Modified Dadant hives. By leaving about 100 pounds of honey for winter stores we encourage the bees to build strong colonies early. In this way we are able to take advantage of light flows which otherwise would be used for building up for later flows. The net result is a much better surplus than we get with the usual practice.

FRANK C. PELLETT.

Three-Ply Airco Foundation



Twenty-two years ago this wonderful foundation was made available to the beekeepers. Inner ply contains hydrogenated vegetable wax as toughening agent to reduce comb distortion. During that time it has proven its superior qualities in hot and cold climates, in poor and good honey flows. Beekeepers have enthusiastically praised it for the following reasons:

. . . It does not sag
. . . It does not melt down
. . . It does not buckle
. . . It has worker brood from top-bar to bottom-bar

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